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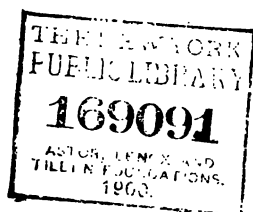
PHILOSOPHY OF NATURE.



GENERAL PRINCIPLES
OF THE
PHILOSOPHY OF NATURE:
WITH
AN OUTLINE OF SOME OF ITS RECENT DEVELOPMENTS
AMONG THE GERMANS,
EMBRACING THE
PHILOSOPHICAL SYSTEMS OF SCHELLING AND HEGEL,
AND
OKEN'S SYSTEM OF NATURE.

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P R E F A C E.

THE great diversity of scientific pursuits in our days naturally prompts the mind to trace their several lines of direction to a point of concurrence, or, at least, to search for some general principle, under whose dominion the assemblage of so many individual figures may give rise to a significant picture. The mere "man of letters," indeed, who is in quest of naught but "accomplishments," contrives to vamp a number of literary shreds together, for the purpose of attiring himself in a sort of festival garb, which serves, with its motley dyes, to distinguish him from the illiterate multitude. He barely wishes to *adorn* himself with the spectral colors of science; but it is the endeavour of the honest aspirant, to recompose these colors into the primitive luminar ray, under the conviction that the light born from this union only can kindle the flame of enthusiasm, in warming the heart, while it enlightens the head. To this craving for mental unity the present little work owes its existence. The reader will perceive, that the First Part is thoroughly programmatic, and simply assigns the general points of view for a philosophical

study of the natural sciences. The principles there laid down are an abstract of a larger treatise, containing developments and applications especially to Physics and Chemistry, the publication of which has been reserved, in order to make room for the Second Part, without extending the limits of the book beyond a volume. This Second Part is an attempt at a delineation of German "philosophy of nature" (*Naturphilosophie*) in some of its most notable phases, embracing principally the philosophical systems of Schelling (with Oken's System of Nature) and Hegel. For reasons of which the book itself is the explanation, it was necessary to enter upon a preparatory examination of the so-called critical philosophy, which then led, above all, to an analysis of Kant's "Critique of Pure Reason." — I cheerfully acknowledge, that for many of my views I am indebted to the study of Hegel's philosophy, although, generally, these views are as independent of Hegel as Hegel is (if it be permitted *magnis componere parva*) of Schelling. The extent of the connection will become apparent by an attentive perusal of both Parts. — It is, of course, altogether foreign to my purpose, as it is out of my power, to give a complete genetic history of German philosophy with the whole variety of its evolutions, in which the succession of the few names, Schelling, Oken, Hegel, would be grotesque enough. What I have given is, in all cases, the fruit of a long and serious study bestowed upon the original works

mentioned in the text; and as I was in search of the results to which the train of these philosophical ideas led, and not merely of a perspective view of their manifold bearings, I can scarcely regret that not a single one of the numerous critical histories of German philosophy has been accessible to me, excepting alone that of Hegel, which is, however, altogether unavailable for details.

Unfortunately, the materialistic, utilitarian tendencies, which at present pervade every branch of science under color of a misconceived Baconism, have revoked every alliance between philosophical pursuits and the investigation of nature. Speculation is perfectly disavowed (sometimes justly, perhaps), and the very worst passport which a naturalist could carry about him is that of a metaphysician. The assumption, that the creative source of free thoughts, the mind, should be even distantly akin to the immutable forces which actuate the movements of the Universe, rear the invariable structure of crystalline masses, preside over the evolution of vegetable forms, and manifest themselves in the organisms and instincts of the animal sphere, is held in utter abhorrence. Now the fundamental principle, upon which, according to my conviction, all true philosophy of nature rests, is, that the different manifestations of the vitality which bursts forth in nature's phenomena are comprehensively united, centred in the mind; that the implacable rigor of cosmic laws, which sways

extensive matter, is identical with the eternal freedom of *mind in its infinite intensity*. I know but one way to reconcile the reluctant reader to this view : that of contrasting it with the current opinions to the contrary, and of first showing what difficulties, and again, what contradictions, the latter involve, when consistently carried out. I have endeavoured to place these difficulties in relief, in the exposition of Kant's philosophy, the acme of the old dualism, where the contrast between the Material and Spiritual, the Objective and Subjective, is salient in the extreme. The unity of the two, asserted by the "philosophy of nature," is not (though such is the very common charge) the unity of pantheism, or a mere hypostatic notion of universality. Those who imagine themselves possessed of the secrets of life, by carrying about them the mysterious *ἐν καὶ πᾶν* as a talisman, may be safely left to the enjoyment of their self-sufficiency ; but I must be allowed to protest against the ordinary sciolistic use of it as a key even of modern German philosophy.

I shall think myself happy, if I have in any manner contributed to introduce more distinct ideas respecting German philosophy among the American and English reading public. The words, "German philosophy," or "German idealism," are heard every moment ; but the only sense attached to them (if there be any) is a medley of vague abstractions, or a series of distractive day-dreams. This obtains even

with regard to the writings of the excellent Carlyle. (See, e. g., his biographies of German poets, his "Characteristics," his "Sartor Resartus," &c.) Much confusion has arisen from the circumstance, that certain preëstablished *English* criteria have been applied to German philosophy. It is suggestive of the national characteristics of the Germans, and serves to discriminate between the spirit alive in them and that animating the French and English, that in the philosophy anterior even to Kant, the Germans, and among them Leibnitz and Wolf, always set out from *themselves*, from a few axiomatic notions relating to *being, thought, ideas, the Deity, &c.*, and upon these synthetically constructed their system of science; whereas the English and French began with objective nature, analyzed it, and then by generalizations sought to arrive at absolute conclusions. The Germans could not *descend* to the material world; hence they became idealists;—the English and French were unable to *ascend* to the summits of the Absolute; on that account they remained materialists. This again leads to the important distinction, often so little kept in view, between the German and the English skeptics. The latter, dwelling in the sphere of the senses, doubted of every thing which was not the object of these, and therefore of the *ideality of the Real*; the former, lost in their own being, doubted of every thing that was not, as it were, born a thought, — they doubted of the correspondence of

the material world with their subjective conceptions, of the *reality of the Ideal*. For an illustration, I simply refer to Hume and Kant.

I ought, perhaps, to apologize here for some anomalies of language, which, in treating of German philosophy, it has been impossible always to forego. In English we have names only for the established result of a process; rarely a word expressive of the process itself. There is the term "knowledge," but the act of acquiring it — *agnoscere, erkennen* — is nameless. We have no term corresponding to the Latin "*feri*," the German "*werden*," — no verb designating the act of absolute origination; "to become" does not express it. The German can use his verbs substantively, thus making pure actions the subjects of a sentence, in order to enounce their predicates; — an Englishman considers this as not congenial to the spirit of his language. Now, as it is the characteristic of true philosophy to study every thing in the process of its origination, — to comprehend that which is evolved, by observing the process of its evolution, — the obstacles encountered in an attempt to reproduce such philosophical movements in the English language must be numerous.

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GENERAL PRINCIPLES
OF THE
PHILOSOPHY OF NATURE.

PART I.
VIEWS AND PROSPECTS.

" Was kann der Mensch im Leben mehr gewinnen,
Als dass sich Gott — Natur ihm offenbare?
Wie sie das Feste lässt zu Geist zerrinnen,
Wie sie das Geisterzeugte fest bewahre? " *

GOETHE.

THE only absolute contrast, which presents itself in the whole sphere of existences, is that between man and material nature. All other differences vanish by arranging themselves in an immediately complementary series ; the mental nature of man alone stands face to face before its material counterpart. The consciousness of man awakens with the double inquiry regarding his own significance and destiny on the one hand, and the purpose and import of the external world on the other. Gradually, however, these two difficulties identify themselves, and then the problem

* " What greater boon can man gain in life, than the revelation of God, — of Nature? — how nature prompts the resolution of the Concrete into mind, and how she preserves the offspring of mind in concrete forms? "

itself is the solution. Man sees that the whole intensive subjectivity of his being lies but in the extent of its *necessary* objects, and, conversely, that the dignity of the objective world is contained in the convergence of its tendencies towards him. He therefore reads the mystery of human existence in the relations of the forms encompassing it, and the solution of nature's problems in his physical and mental activity. Just as the life within thus becomes thoroughly interwoven with that without him, he soon becomes sensible that it is the same link which chains events and phenomena, and the same life which appears as the productive energy in history and nature.

The unity of living nature in the same pervading, energizing spirit thus always accompanies man as an instinctive sentiment at least, if not as a conscious perception. And who has not felt it in the moment of unutterable delight, experienced in identifying his own inmost thoughts and feelings with those of a friend, — in seeing a cherished idea kindle the flash of sympathetic enthusiasm in the eye of the listener, — in suddenly beholding the revelation of an eternal law in an apparently stray phenomenon? What else than this could urge man with an irresistible impulse to commune with his fellow-beings and with environing nature generally, — to search for the same governing agency in the events of history, the spiritual workings of mankind, and in physical variations, — to construe the past, in order to understand the present, and thence to conceive his bodings of the future?

It was the silent anticipation of this union, and the desire to trace it in its manifold ramifications, which ever characterized the mental endeavours of mankind, prompting the genial imaginings of the poet and the daring speculations of the sage. The unity of nature was an intuitive perception of man in the earliest epochs; the single word

"Nature" or "Universe," for instance, wherever it was first used, could enounce only the idea — vague, perhaps, but nevertheless decided — of an organized whole. And this idea, thus instinctively apprehended, emerged in ages long past, during the twilight of human consciousness, in the fantastic shadowings of deifications of nature, transpositions of man into various inferior forms of life, metempsychosis, and a host of other favorite doctrines, delusive, indeed, but which are no more without their disguised truthfulness, than the hues of the morning mist without an irradiant sun. A distant glimpse of this unity furthermore brightened the gloomy laboratory of the alchemist, when he sought his *menstruum universale* or the philosopher's stone, and the mysterious chamber of the astrologer, when he imagined that the destiny of humankind was at the same time conceived and forecast in heaven, enacted upon earth, and written in the prophetic record of luminal constellations. In whatever naturalistic systems, pantheistic philosophies, &c., this consciousness has vented itself, they all bear testimony to its depth and permanence.

The variegated shapings of the material world have therefore ever been looked upon by gifted men as recording the self-realizing thoughts of an all-powerful Intelligence; in the features of the Universe the thoughtful observer has ever recognized the lineaments of God's countenance smiling upon man. "Custodi rectorique universi," says Seneca (Quæst. Nat. II. 45), "omne nomen convenit. Vis illum fatum vocare? non errabis. Hic est, e quo omnia suspensa sunt, caussa caussarum. Vis illum providentiam ducere? recte duces. Est enim, cujus consilio huic mundo providetur, ut inconcussus eat, et actus suos explicet. Vis illum naturam vocare? non peccabis. Est enim, ex quo nata sunt omnia, cujus spiritu vivimus. Vis illum vocare mundum? non falleris. Ipse enim est, totum

quod vides, *totus suis partibus inditus* et se sustinens vi suâ." *

It is not the place here to point out the different aspects under which the unity of nature has presented itself to speculating minds in the lapse of time. Upon the revival of physical studies under the auspices of inductive research and the attendant divorce between metaphysics and empirical science, speculative theology and practical observation, the old mystical union disappeared, as of course, and even the unity of causal action, though not denied, was thrown aside as irrelevant and fruitless. The only obvious unity which then remained was that of aggregation. Yet this bare coördination of things turned of itself into correlation; the mutual dependence and subserviency of finite existences forced the naturalist to adopt as a guide in his investigations the adaptation of means to ends, and to dignify his results by construing them according to cause and purpose. As it ever happens when things essentially connected are violently separated, speculative philosophy, which had been expatriated a moment before, insinuated itself anew, and thus arose the so-called teleological system, or the doctrine of *causæ finales*, with its laws, for which, on account of their formal generality, it was impossible to adduce any empirical warrant. Such are, e. c., the *lex parsimoniæ*, — that nature attains her ends by the shortest possible route and by the fewest possible means; the *lex continui*, — that nature never proceeds *per saltum*, either in the succession or the co-arrangement of her products; the *lex subsumtionis*, — that nature's variety reduces itself to few principles. † Though this view has perhaps most

* Similarly Lucan (Phars. IX. v. 578): —

"Estne Dei sedes, nisi terra, et pontus, et aer,
Et cælum, et virtus? superos quid querimus ultra?
Juppiter est, quodcunque vides, quocunque moveris."

† For a very interesting and lengthy discussion of teleological reason-

consistently presided over the exertions of the English school, yet it is Cuvier, who, by applying it to palæontological inquiries, has exhibited it in its fullest importance, and shown how prolific it may become of practical results.

Interesting and useful as such a construction proved, it was insufficient and partial, as every subjection of the Infinite to finite considerations must ever be. Even if the poet's demand to look upon nature as a grand epic of divine genius were disregarded, the optimistic claim of the philosopher, that the numerous discrepancies in the economy of the Universe, the mutual destruction of its forms, &c., should be reconciled with the fundamental theory of definite design, could not be protested. Besides, the teleological views were so inconsistent among themselves, that (to select but one instance) whilst generally the mineral sphere was made the mere condition of existence for the vegetable kingdom, this in turn the food for the animated world, over which latter a summary sway was conceded to man, Linnæus, with equal plausibility, maintained that the herbs were browsed by herbivorous animals solely for the purpose of preventing an over-luxurious vegetation, and therefore the suppression of inferior orders; that the carnivora again assailed the herbivora in order to restrain these in their excessive depredations, man in fine acting as a salutary check upon the voracity of the carnivora. Thus the whole was reversed; the ends were made the means, and man, instead of appearing as the point of ultimate convergence for all the teleological tendencies of nature, now stood simply as an eventual expedient for preserving the equilibrium of the inferior organic world. In lieu of so scanty an objective coherence, therefore, a

ing, consult Kant's "*Kritik der Urtheilskraft*," p. 21 seqq. (Rosenkranz's edition), and his "*Methodenlehre der teleologischen Urtheilskraft*," p. 321 seqq.

generative subjective unity was sought for, and this created another school, which left the final results, as such, out of the question, insisted upon the *unity of life*, and therefore of *plan*, in the Universe, and regarded the individual products in the light of vital manifestations of the whole. This was fostered, moreover, by the discoveries in astronomy and geology. I will allude only to Herschel's nebulæ, the unquestionable tenuity of cometic masses, and the apparent temporary formation of cometic tails, the geological history of the many revolutions which our globe has undergone, — the last forcing the mind to conceive our globe in an embryotic state, of which the former at the same time seemed to furnish *analogia*.

Two parties, then, stood arrayed against each other, and even at present carry on their war, chiefly in England and France. (See the writings of modern geologists and zoölogists, the "Inductive Sciences" of Whewell, the "Bulletin des Sciences," &c.) One (the latter adverted to above), which numbered such men as Laplace among its strenuous adherents, advocated the strict autocracy of material nature, and repudiated the assumption of an Intelligence forecasting creation as a system of means and ends. The doctrine was, that an original, chaotic, all-pervading mass gradually arranged, organized itself in successive concretions, and advanced to a complete formalization, to the perfect transparency of law. The great analogies of natural forms, the schematic coincidences in the structure of organisms specifically distinct and externally the most dissimilar, the undoubted generative modifications of certain species (which, though exaggerated and distorted by Lamarck and others, are empirically substantiated, whatever be said to the contrary), the consequent possibility of reducing such organic forms to original types, from which they can be conceived to have arisen by mere elongations, retractions, greater development of some parts and sup-

pression of others, mutual encroachments, &c.,* the consecutive advance in the complication and organic dignity of the vegetable and zoölogical genera, as we find them entombed in geological strata whose supraposition in space is an undoubted warrant of their succession in time, †

* I shall not dwell here upon the morphological researches of Goethe, his reproduction of a universal primitive type (Urpflanze) from the manifold vegetable forms, the relations established by him between the vertebral and cranial bones, &c. Every one of his readers recollects the beautiful lines, —

“Alle Gestalten sind ähnlich, und keine gleicht der andern ;
Und so deutet das Chor auf ein geheimes Gesetz,
Auf ein heiliges Räthsel.”

“All forms are similar, and yet none is like the other ; thus the choir (group) indicates a secret law, a sacred enigma.” Again, with respect to animals : —

“Zweck sein selbst ist jegliches Thier, vollkommen entspringt es
Aus dem Schoos der Natur, und zeugt vollkommene Kinder.
Alle Glieder bilden sich aus nach ew’gen Gesetzen,
Und die seltenste Form bewahrt im Geheimen das Urbild.”

“Every animal is its own purpose, it originates perfect in nature’s womb, and generates perfect children. All its limbs develop themselves in conformity with eternal laws, and the rarest form preserves in secret the primitive type.” It is easily seen here that Goethe is not an *exclusive* morphologist.

† That Lyell (with other geologists) opposes this is owing to two circumstances. First, he has a theory of his own to sustain, that of a *status quo* in the mode in which nature’s forces manifest themselves. To forego, e. c., the many theories framed in order to account for the occurrence of the remains of animals and vegetables *now* tropical, in hyperborean regions, and the consequent higher temperature of these regions in former times, such as Laplace’s theory of a gradual cooling of the planet, he deems a mere change of territorial configuration on the earth, and the transference of continental tracts from northern to tropical latitudes by means of the volcanic and neptunic agencies now at work, sufficient to bring about the change of temperature in question. These agencies are no doubt mightier in their results than is at first imagined ; yet there can be but few persons who would refer a difference so enormous to causes after all comparatively insignificant, if Mr. Lyell does not intend to take away from the north (in the sense of his theory) the very territory where the remains creating the difficulty are found. The next circumstance is, that there is scarcely a criterion universally

—all seemed at the first blush to countenance these theories. A universal mobile ether, it was thought, first consolidated itself into concentric shells, and these into zones, which, in their turn, divided themselves into particular spheres, while the forces previously resident in this ether intensated themselves through the contraction, and prompted the rotatory and revolutionary movements of the bodies thus formed.* Each of the latter now became the maternal womb for progressive generations, arising from the concurrent action of already existing agencies (heat, electricity, &c.), in which a primitive type, though variously modified and perfected, was never abandoned. Such and similar views constitute, even at present, the ruling principles of the so-called *morphologists*; those of the strict morphological creed advocate, e. c., the much discussed *generatio æquivoca*, i. e. the generation of organic beings by the sole *mechanical* action of inorganic matter (I consider it as after all mechanical, though dynamical electricity be made the chief agent), the inherent progressive tendency of nature, the transmutation of species even by external solicitation and material necessity, &c.,

admitted for the organic dignity of beings. The polype, it is said, is as wonderful as the elephant. Still, if the organization of man be held the most perfect, a comparison, it would seem, independent of metaphysical speculation, must obviate the difficulty sufficiently for the above purpose.

* It is exceedingly strange that Laplace's theory of planetary formations, contained in his "*Système du Monde*," 4to edition, p. 347 seqq., coincides, *even in the mode and order of hypothetical deduction*, with that given more at length by Kant, in his "*Allgemeine Naturgeschichte und Theorie des Himmels*," p. 95 seqq., which was published much before the "*Système du Monde*," namely, in the year 1755, — the more so, as Laplace observes, p. 344, — "*Buffon est le seul que je connoisse, qui depuis la découverte du vrai système du monde ait essayé de remonter à l'origine des planètes et des satellites*." Several speculations of Laplace on the connection between the eccentricity of comets and planets, and their relative distances from the sun, are likewise to be found in the same book of Kant. It is to be supposed that this book had never fallen under Laplace's notice.

&c., &c. No matter whether they called themselves Atheists or Pantheists, establishing the unity of the world in an all-comprising substance (*le grand tout*, *Cosmos*, &c.), or Spinozists, with their manifold determinations of a unital substratum (substance), nothing can be more evident than that such a system is in itself utterly untenable. Admitting, for a moment, that we could by this method chain the different products of nature to each other, and trace the various modifications to their parent-substance under the guidance of filial resemblances, what link is there, after all, between the *substance* and the *forces* effecting its modifications? — between the original chaos and the mechanism, with its purposes and adaptations, into which it converts itself? What reconciles the unity with the multiplicity?

The other party makes nature the result of a spontaneous act of an external Deity, — an act which they term *will*, but which, in the teachings of consistent partisans, is synonymous with *caprice*. Divine caprice is a hard word; but whatever is not based upon an intrinsic motive, or in its present absolute sense upon internal necessity, cannot pass under another name. In this view, nature, though an *accident*, is moulded by the immediate hand of the Deity, so as to answer certain extraneous purposes. Let it be repeated, that there is question here only of the consistent members of the party, which has otherwise split into two great divisions, — the so-called *occasionalists* and *prestablists*. The former maintain the *immediate* interference of divine volition in each productive act of nature, which of course silences every further question of the naturalistic inquirer. The latter assert that the forms of nature are only *virtually* preëstablished by divine wisdom, their further development being then left to themselves, — or, very popularly expressed, that a certain quantity of laws, forces, and materials was originally put on the

start by the Creator, and then consigned to its own adventure. Part of these præstabilists formerly called themselves *evolutionists*, or the advocates of *individual* preformation, considering the germs of all organisms as having been encased in the first, so that they were only *educated* thence ; another part proceeded upon the theory of *epigenesis*, or *generic* preformation, in which the natural forms were, in reality, assumed to be *prefigured* only, and not *performed*, or at most *potentially*.

Causæ finales, then, against *causæ efficientes*, design and purpose against productive, inherent vitality, volition and foresight against the *nolens volens* of material necessity, teleology against morphology. Are they inconsistent with, do they not mutually imply, each other ? According to the morphologist, nature is a process of absolute germination ; one form *must* produce the other. Is not here the latter that which essentially determines the former,—the end, to which this is the means ? Vital necessity is made the *causa efficiens* of a natural product ; but this *essentially* gives rise to another one, for the generation of which the former must undoubtedly be thoroughly organized ; is not, therefore, the organization of the latter and higher product *retrospectively*, as *causa finalis*, identical with the *prospective causa efficiens* of the former and inferior product ? Is not the organization of the highest organic form in nature unavoidably involved as design and purpose in the most chaotic, indifferent, generative ether to which we can trace our way back ?

Again, in the asseveration of the teleologist, the whole necessity for the existence of a thing lies in its subservience to a given *extrinsic* purpose. If so, is not that thing (*thing* is the word with the teleologist), with every atom and fibre, adapted to, *measured by*, this purpose ? Is not the purpose the plan in conformity with which it is

constructed, which pervades and penetrates it to its innermost core? Is not this purpose that which determines the thing's shapings, guides its life, presides over, or rather resides in it, as its formative principle, its fundamental idea, as the soul of its movements? Could the *causa finalis* be more absolutely the *causa efficiens*? Is not the purpose fully *contained in* the so-called *bare means*? And is not, consequently, the ultimate being, for which all existence is *designed*, the *primitive causal principle* of that existence? *

The views of both the teleologists and morphologists are in consequence limited rather than fundamentally erroneous. We have but to look them sharply into the eye, to see that both lead to the same conclusion, namely, the coincidence of the absolute cause and absolute design, or more correctly, perhaps; their mutual implication. The teleologist isolates the latter, and disregards its connection with the former; the morphologist, on the contrary, isolates the former, and loses sight of the latter. The truth is the self-objectivation of the cause, absolute self-conception, — as remarked, the absolute causality (generative principle) of the morphologists, which is at the same time the ultimate design of the teleologists.

The quarrel about freedom and necessity between the two schools is similarly a jargon. *Free* we call that which lives and acts for an intrinsic subjective purpose; *necessary* that which exists for an extrinsic, *purely* objective design. That which is free has its vital principle *within*; that which is necessary, *without*. Since the morphologists exclude purpose, their terms *freedom* and *necessity* are without a meaning; but indeed, as has been shown, their so-called *necessary existences* are inevitably designed, and,

* The *formal* assertion, that the ἀρχή already contains the τέλος, is even quoted by Brucker from Aristotle.

if they understand themselves, their *Whole* is absolutely free. As to the teleologists, their system of subordination brings us to some great eventual purpose, — as it is ordinarily taken by them, the life and intelligence of man. Now it may be said that man (or if another being be assigned, the reasoning equally applies, *mutatis mutandis*) is his own purpose, and therefore the absolute purpose of the world. Then his being is the world's (nature's) great determining cause, and there is no other. But this is untenable ; man is, after all, the work of the Deity, — he is designed by the Deity, or the design lay in the Deity. The grand ultimate purpose of the world is therefore the fulfilment of the Deity's designs ; but these designs must be *intrinsic* (for making them extrinsic would lead us through the same circle of reasoning just percurréd), they must be founded upon the Deity's being. The Deity's being is therefore at once the design and cause of the phenomenal world, or the phenomenal world is but a self-revelation of the Deity. Establishing nature, however, as many teleologists do, apart from the Deity, as a mechanism of means and ends, without any *essential* relation to Divine Being, is basing every thing upon the Arbitrary, not upon freedom, — upon a nominal freedom without meaning, just as the pretended necessity of the morphologists is but a name.

By whatever appellations the naturalists under consideration be distinguished, one feature is common to them all : they dwelt strictly in the regions of *phenomenal* nature. Those whose observations constituted themselves into a science, by a reference to final causes, took care, indeed, always to state that at last the inquirer is led to a point where an appeal to divine creative power is forced upon him ; but this was no more than an extraneous formality, which had naught to do with nature's innermost life. So long as the man of final causes appeared in the capacity of

a naturalist, he was as materialistic as the most inveterate hylozoist. — But it is the great redeeming trait of science, that narrow, unilateral views imply the principle of their enlargement and completion, and carry the theorist unawares beyond his own doctrines. Accordingly, we soon witness a meeting, and almost a coalition, of the two parties, though no concession had been made on either hand ; *conditions for life* was an expression which could be construed into an adaptation of means to ends, as well as into vital necessity. Life was, by degrees, acknowledged to be its own end, and *organic unity* became, by common consent, the systematizing principle in natural sciences. It is important to obtain a close view of every aspect assumed by nature at a particular station of the intelligent surveyor ; I shall, therefore, attempt to exhibit a few results of an apparently speculative character, which, it has often struck me, would flow from the principle last mentioned, without the aid of higher ideas, or of any thing but rigorous induction.

Let us develop, then, the principle, *that the Universe embraces the different individual forms as its organic constituents, all of which are subject to the activity of the same general laws* (and it might be added, *consequently* to the same fundamental typification, the types being only the record of those laws). Taking life in its most general acceptance, of *a process of phenomenal variations, bodying forth an unvarying, permanent principle of existence*, it would not be difficult to show that life belongs to any of these constituents solely in virtue of their relations with the entire Universe ; that all the manifestations of life — change, motion, progressive development — are but a process verifying the vital innervations of the Whole. As to the life in the solar system : there would be neither revolution nor rotation without the link of universal attraction, hence no seasonal vicissitudes, no succession of night and day ;

without the cosmic influence of heat and light, the water would not evaporate from the ocean's surface ; there being no disturbance of aerial equilibrium, no breezes would waft the distilled products to the continental plains ; there would be no irrigation of the soil, no circulation of waters, no vegetation, no support of animal life. To descend to terrestrial forms : a mineral solution stands inert and shapeless, until the magic lines of light trace in it the word "*union* with the vivifying Whole," when at once polarization is induced, the molecules attract and repel each other, assuming the form of a crystalline unit, the threshold, perhaps, to the realm of separate organization. Similarly the warm breath of the Universe impregnates the terrestrial womb with vegetable forms, and the solar eye, as it were, *looks* them into distinct, individual existence. The same with animals. It is useless to adduce further instances to show how the proposition, *that life only then appears, when the Whole energizes in a part, or when the Particular enters into relation with the Universal*, might be disjunctively established.

The vital activity of nature is evinced (I give this as a "Baconian" fact) in the continual evolution of individual forms, each of them tending to an independence of constitutional arrangement, and (in higher forms) of vitality. Now, since (as has been shown) all vital development depends upon the energetic relation between Whole and parts, which relations are materially exhibited in each individual form, in the shape of organs,* it follows that vital development is greatest when the direct relationship is most multilateral, when the organization, therefore, is most complicated. A greater multiplicity of relations will condition a more variegated combination of organs,

* Organ I call the material medium through which the reciprocation of the Individual with the Whole is established, — the totality of organs in each individual development constituting an organism.

a *superior organization*. Inasmuch, however, as the same universality is the principle of *all* organization, the type of each particular organism will be a document of that universality ; the development and the organic structure reared thereby will, in consequence, be a repetition of the development and form of the great organic Whole. The general results, then, which thus present themselves, might be stated as follows : —

1. *Every individual organism is the activity of all-comprehending nature embodied in concrete unity, the life of the Whole reflected in a part ;** or, since this life can manifest itself in no other way than in a reciprocation between the Whole and its parts, between World and Monad, *every individual organism is a material exhibition of these reciprocating agencies in conspiring, harmonic operation.*

2. *The development of each particular organic form is a miniature reproduction of the formative evolution of entire nature ; and, inasmuch as*

3. *the gradation of natural forms will depend upon the greater or less universality of the direct relations embodied in them, upon the greater or less perfection with which they represent nature in her totality, and with which the above reproduction is effected, it follows, that*

4. *every higher organism must exhibit a progressive repetition of inferior organisms, both in its development, and in the material form recording it.*

I might, perhaps, go farther still. All development is, from its nature, progressive ; absolute progression would characterize life absolutely independent. Every

* The words of Goethe are quite in point : —

“ Willst du dich am Ganzen erquickern,

So mußt du das Ganze im Kleinsten erblicken.”

“ If you wish to appreciate the Whole, you must see the Whole in the Smallest.”

particular organic form, however, appears in a twofold capacity, — that of a self-perpetuating unit, of a whole complete in itself, and that of a mere complementary member, a part of a superior whole, from the connection with which it derives its vital significance. Its development will not, therefore, be absolutely progressive, but characterized by *evolution* and *revolution*, *advance* and *retrogression*; it will be *self-returning*, as it were, circular. Yet, since a mere retracing of a previous course would preclude all actual advance, and consequently all real development, the term of any evolution will never coincide with its outset, but fall beyond it; *the development of all individual forms will be spiral*.* This great law has been repeatedly insisted upon by Goethe, Carus, and others. Otherwise expressed, *all life is periodical*, — night and day, sleep and waking, life and death, &c., &c., are phases that *must* succeed each other.

It was principally at the birth of the present century, that the organic unity of nature became the point of view for nature's interpretation. "All nature is a great organism"; — this old principle, which had been forgotten by the philosophers in their abstract speculations, and by the naturalists and mathematicians in their mechanical constructions, was now revived. And here we find, above all, Father Goethe, who, at first almost alone in his efforts, endeavoured to bring all the phenomena of nature to an organic consistency.

If nature be regarded as an organism, no existence can originate otherwise than by a necessary birth from the

* It is, perhaps, superfluous to remark, that already the word "*development*" (more appropriately *evelopment*, — *devolutio*, *evolutio*) implies this. The spiral growth of plants, the spiral structure of animal bones, the spiral progress of fœtal evolution, the recent theory of the spiral nature of celestial movements, &c., &c., are all well known.

internal, vital unity. The Manifold must arise from the One, not the One be a composition of the Manifold. The figurations of nature must be more than the *symbol*, — they must be the *gesticular expression* of nature's inner life, and not the carved printers-types of an externally attached meaning. The various purposes of life must be dependencies upon a universal primitive and ultimate purpose, which is no other than nature's life and nature's free development itself; they cannot be a system of foreign adaptations. Such an organism is incomprehensible, therefore, for every speculation which comes armed with a set of categories privately and abstractly devised. Nature can be comprehended only in and by nature, and remains a sealed book for him who tries to stretch himself beyond her pale. Live *in* nature, think *with* her, and her secrets will be yours. Now it is precisely the attribute of the poet to be winged on and borne by nature's life; and Goethe, with his universalism, was therefore preëminently clothed in the robe of nature's priesthood. He took man as a perpetuating creative power, required him immediately to "live on" the universal life, and repudiated all subtilizations, all division, all resolution of nature. "A man who speculates," he says, "is like an animal led around in a circle on a dreary heath by a malignant spirit, whilst all about there is beautiful, green pasture."* No figaries and cunning theories for him: — "Gray, dear friend, is all theory, but green the golden tree of life."† Nature, such as she is, was her own revelation for him. "In these pure features I see acting nature living before my soul.

* "Ein Mensch, der spekulirt,
Ist wie ein Thier, auf dürrer Heide
Von einem bösen Geist im Kreis herumgeführt,
Und rings herum ist schöne, grüne Weide."

† "Grau, theurer Freund, ist alle Theorie,
Und grün des Lebens gold'ner Baum."

Now first I understand the words of the sage : The spiritual world is not concealed. Thy sense is shut, thy heart is dead. Up, pupil, and unweariedly bathe thy earthly breast in the morning red ! How all weaves itself to the whole, — the one acts and lives in the other ! How celestial forces ascend and descend, and hand each other the golden pails ! How, on wings redolent with bliss, they penetrate the earth from heaven, — harmonically all pervade the All.” *

Goethe found the meaning of nature in nature's forms, and her end and object in her continued activity. “In the floods of life,” he makes the “spirit” say, “in the storm of deeds I move up and down, I weave to and fro ! Birth and the grave, an eternal sea, a changing strife, a glowing life ! Thus I create at the roaring loom of time, and weave the living garment of the Deity.” † He

* “Ich schau’ in diesen reinen Zügen
Die wirkende Natur vor meiner Seele liegen.
Jetzt erst erkenn’ ich was der Weise spricht :
Die Geisterwelt ist nicht verschlossen ;
Dein Sinn ist zu, dein Herz ist todt.
Auf, bade, Schüler, unverdrossen
Die ird’sche Brust im Morgenroth.
Wie Alles sich zum Ganzen webt,
Eins in dem Andern wirkt und lebt !
Wie Himmelskräfte auf und nieder steigen,
Und sich die gold’nen Eimer reichen !
Mit segenduftenden Schwingen
Vom Himmel durch die Erde dringen,
Harmonisch all’ das All durchklingen !”

† “In Lebensfluthen, im Thatensturm
Wall’ ich auf und ab,
Webe hin und her !
Geburt und Grab,
Ein ewiges Meer,
Ein wechselnd Streben,
Ein glühend Leben !
So schaff’ ich am sausenden Webstuhl der Zeit,
Und wirke der Gottheit lebendiges Kleid.”

wished, therefore, that man should simply, with open eyes and unbiased senses, let himself be carried onwards by life's current ; he demanded nothing but earnest activity, — "nature knows the way." The phenomenality of the world was to him the world's spirit ; every vegetable and animal form stood as its immediate annunciation.

Goethe, of course, abominated all mechanical views ; hence his polemics against the vulcanism of Hutton, against Newton's theory of colors, against the current theories of the formation of clouds, &c. ; so that in latter years he was even betrayed into a denial of atmospheric pressure, in the ordinary mechanical sense. He rejected every external criterion for nature ; nature is her own measure and her own purpose. Existence is its own goal, — the only reward and boon of activity is activity itself, for there is nothing higher. For Goethe, life always gazed smilingly from its own depths, — "and wherever we take it, it is interesting." The discrepancies and contradictions of life did not escape his notice ; but he had the immediate certainty of their reconciliation, and on that account he did not remain entangled in those contradictions, like, e. g., Byron ; — he knew no despair.

The fundamental view here implied, then, is, that nature is an internal unity revealing itself necessarily in the form of multiplicity. To conceive this was the great scientific labor of Goethe. He was everywhere in quest of primitive forms ; he strove to show how these, from their own being, perfected, unfolded themselves, and exhibited as a complete chain what they had originally been as a separate link. He did not search for a recondite essence *in* the phenomenon, but tried to interpret the phenomenon *as* the essence. The Interior exposed itself to his clear eye as the Exterior. What he himself, in his "epochs of the mind," designates as *orphic*, was, in the

utmost degree, peculiar to him. "A favored mind," he says, "looks into the phenomena, sees what occurs, and, full of anticipations, enounces the Actual, as though it originated. Thus we have in ancient epochs observation, philosophy, designation by names (nomenclature), and poetry of nature, all in one." Goethe was this favored mind. All his scientific results were obtained *intuitively*, and his poetic instinct, which rarely proved an impostor, always carried him in advance of systematic discoveries. He was not for a moment disconcerted by speculative wranglings. The immanence of divinity in nature was his unflinching belief; this was the loadstar which guided and cheered him. "What were a God who only impinged externally, and turned the All (the Universe) in a circle on his finger? It becomes Him to move the world in its interior, to cherish nature in Himself and Himself in nature, so that whatever lives and weaves and is in Him nevermore lacks His power and His spirit."* He consequently had the most implicit faith in nature's self-redemption, and to this, to gradual organic regeneration, he wished to see every thing intrusted, even the destiny of mankind. "Let all things be of natural growth." Hence his peculiar indifference in times so eventful, his apparent egotism, so often objected to him, his neat sensualism; hence, also, the circumstance, that all his works, his dramatic productions, &c., exhibit the consistency of *individual, personal* development, and are documents of *internal* experience; whereas the coherence in the works of Schiller, for instance, is but

* "Was wär' ein Gott, der nur von aussen stiesse,
Im Kreis das All am Finger laufen liesse?
Ihm ziemt's, die Welt im Innern zu bewegen,
Natur in Sich, Sich in Natur zu hegen,
So dass, was in ihm lebt und webt und ist,
Nie seine Kraft, nie seinen Geist vermisst."

between the different stages of an artistic consciousness intensating itself more and more. Goethe *lived*, Schiller *wrote*, his works. For the same reason Goethe has no sympathy with an enthusiasm for systematic views, with the effort to carry them out practically. "Organic growth" was his motto (which, unfortunately, is being villanously abused in Germany at this moment). Who can speak to the caterpillar, which creeps on the ground; of its future food? And who can aid the chrysalid, which lies on the ground, in breaking through its tender shell? The time arrives: it pierces through on its own strength, and, winged, hastens into the lap of the rose." * I hope that these remarks will not be considered a digression; I have made them here, because the point of view which I have endeavoured to determine by them is, perhaps, that of every true poet, and, in a certain sense, that of every genuine naturalist.

* "Wer kann der Raupe, die am Zweige kriecht,
 Von ihrem künft'gen Futter sprechen?
 Und wer der Puppe, die am Boden liegt,
 Die zarte Schale helfen durchzubrechen?
 Es kommt die Zeit; sie drängt sich selber los,
 Und eilt auf Fittigen der Rose in den Schooss."

GROUNDS AND POSITIONS.

THE animation of all science, the soul and genius of investigation and thought, of observation and reflection, is the demand of the universal unity, of which there has been question in the preceding pages, and the attempt at recognizing it in its necessity. However paltry an inquiry be, it is prompted by a faint anticipation of its bearings to the Universal. So long as man thinks, he will strive to reduce phenomena to their essence, appearances to their truth, effects to their ultimate cause. Even Bacon, the genial utilitarian, says (*Nov. Org. lib. II.*) : — “*Datæ autem naturæ formam, sive differentiam veram, sive naturam naturantem, sive fontem emanationis invenire, opus et intentio est humanæ scientiæ.*” It is the aspiration of human nature, the task imposed upon our intelligence by its own being, — it is the thirst of the mind after itself, the craving for its own fulfilment, for its own reality, its own truth. The injunction, to be content with a knowledge of the Relative, has never yet been more than apparently complied with by him whose endeavours previously called it forth. Where it was obeyed, it had been beforehand unnecessary.

What is the constant principle, we ask, in the variations of existing things? What is the origin of the movements of the Universe? the source whence every thing ema-

nates? the ground of so many modifications? The mystery is the connection between the unity demanded by the mind and the variety given in experience, — between substance and its transition into modifications, — between the mere *quantum* and the *quale*. Reduced to its simplest elements, the difficulty stands between constancy and change, — between *absolute rest* and *absolute motion*.

We are driven from effect to cause. Inquirers have therefore generally sought to reason their way up to a *final* cause, *where their inquiry ceased, rested*, and, as they inferred, where every thing has its absolute foundation, where it *rests*, reposes.* Wherever there was movement, variation, change, they went beyond it to the cause, and so on, — *ad infinitum*, or rather until they abandoned the hopeless chase. The only resource then was to *assert* an ultimate unital cause in spite of the failure to arrive at it, and to fill the chasm by — a mystery.

There is an assumption in this. The logical cogency which pointed to a goal receding before them consisted in this, that the *absolute repose, rest as such*, was made the origin of all existences, *that rest was made the bearer, the absolute condition, the source, the element of motion*. In other words, they assumed *a logical priority of rest to motion*. But is this true? *Is rest the element of motion, or motion the element of rest?* Is rest the principle upon which motion can be explained, or conversely? Is motion a mere incident to rest, or rest an incident to motion? *Is rest, absolutely, substantially taken, at all?*

It is my object to bring the reader by the simplest possible means to the point of view to which long, earnest

* In several philosophical books this is conceived, sometimes illustratively, sometimes in the strict sense of the words, as the reference of the whole Universe to an absolute *fulcrum*, an absolute centre of gravity, around which all motion occurs, and from which all motion proceeds.

thought has brought me. I shall attempt to remove all dialectical difficulties, save those which lie in the nature of the subject, and are superadded by the circumstance, that all things present a new face when the position is varied. When I appear to make a gratuitous assertion, I request the reader not to be too hasty, and to read twice.

§ 1. *There is nowhere absolute rest, but motion everywhere.* All rest is but relative, or it is equilibrium. What appears at first sight to be stationary will prove not only to be whirled away in the great cosmic movements, but engaged in a process of origination and evanescence.* But this is not enough. *It is impossible to conceive rest without the concomitant idea of equilibrium, and therefore of motion. It is impossible to construe motion out of rest; rest is an incident to motion, and consequently to be explained from the nature of the latter.* There is consequently no logical priority of rest to motion.† That we are forced to seek an explanation of the existence of things means, *we are forced to reduce every thing to the ultimatum, to the last element of thought, — to its simplest item, beyond which our thought cannot go.* This last element is of course the absolute unit; since, however, it is a logical impossibility to conceive rest but as the product of motion, as arising from an absolute opposition, — mechanically expressed, but as equilibrium, — this is not the unity of absolute repose, but the unity of absolute motion within itself, or *motion as unital, substantial.*

§ 2. It was an inevitable failure, when philosophers

* Had I any need of mere plausibility, which has nothing to do with truth, I might adduce such instances as the incessant heaving of granite (one of the most rigid substances known) recently observed by Doelling.

† The trivial fact might be insisted upon, that in mechanics the theory of motion precedes that of rest; dynamics precedes statics.

assumed a firm, immobile principle, from which they attempted to find their way to the variety of existences. They postulated the unity of all things, not in an ultimate *substance*, but in a rigid *substratum*. From this substratum they could deduce nothing ; they could only *superinduce* the phenomenal world, by which they virtually made the latter as absolute and independent as the former. — Are we, then, to renounce the substantial unity in question ? By no means ; but it is absolute motion, or activity, substantively taken, not rest as a substance, which constitutes this unity.

Motion in the sphere of finitudes, where it allies itself to the idea of succession, is but an *analogon* of absolute motion, of which there is question here. *Origination, generation, activity, &c.*, are all adequate expressions only in so far as we exclude time. There certainly is a word which expresses that absolute, substantial, timeless motion in and through itself ; that word is *spirit*, and I shall afterwards introduce it, when we have gained a clearer insight, which can be effected only through an analysis of the familiar idea of motion. — For another reason the term *motion* is inadequate. We shall presently see that activity, when existing, is self-opposition ; now this is quite easily understood by motion in the relations of quantity, but in quality the same obtains, and thus the common idea of motion is insufficient. Still, it is perfectly *relevant*, because it is rigorously an *analogon*.

§ 3. The absolutely first and last, the principle of all existences, therefore, is the substantiality of motion,* —

* I once for all remark, that I use words here in their general sense ; if they are used in a new sense, the words assume it themselves in the course of deduction, and not I for them. The word “ substance,” for instance, is a growth of the old theories, and comes from sub-*sistere*, implying fundamental rest ; but I retain the word for its general import, which is well understood, instead of framing a new one that would lead

movement within itself; absolute activity, absolute *life*, — *the substance originating within itself*. It is usually dangerous to employ technical language; otherwise we might designate the same as self-equilibrating motion.

§ 4. *Motion* (activity) *is in itself necessarily dual*, or, universally taken, *plural and unital at the same time*. This is no paradox. Let the reader reflect upon the nature of motion. Let him try to conceive the transition of a body from one point to another. We must catch the body in the *act* of transition, for, however near we place the points, a shift from the one to the other is to be made, and there is motion only during that shift. If we wish, then, to seize upon that act *as an act*, — *as a unital, identical being*, — *it is at two points at once*. Motion taken *as a unital activity*, therefore, is in innumerable points at once. The reader will perceive that the very duality or plurality of motion *arises from our attempt to seize upon it as a unity*. — The act of origination, of beginning, &c., leads to the same contradiction, which contradiction nevertheless results from the necessary identity of the act, from its unity. We grasp the act as a unity, and we have an unavoidable duality; *we endeavour to retain that duality as absolute, and it is nothing without the unity*. Enouncing this generally: the principle of existences is just as absolutely *self-identifying*, — unital, — as it is *self-differentiating*, *self-repelling*, *self-exclusive*. It is as necessarily *intensity* as it is *extension*, as necessarily an *interior, spiritual principle*, as an *outward, material manifestation*. (That which is self-exclusive, and therefore extended and impenetrable, I call matter.)

to embarrassment. In how far I shall, in general, accept the charge of a *contradictio in adjectis*, for which further on there will often be a better pretext than here, where a captious repetition of a "moving substance" would be a mere quibble, our progress will show.

I hope the reader will seriously reflect upon this. Activity, life, &c., which all involve motion, being the substance of every thing, must be taken as *existing*, and for that purpose be *identified*. In this identification the substance “before our eyes” *differentiates*, defines itself as a plurality.

I can now safely proceed to vary my expressions. The principle of all existences is a *living unit*, or an absolutely existing process. Had Spinoza and others succeeded in deducing the phenomenal world from a rigid substratum, they had succeeded in deducing *life* from the *absolutely dead*,— which would be the same as making the body generate its soul, which afterwards assumed unlimited sway over its own creator !

§ 5. The Rigid Material, or what was formerly conceived to be the Substantial, is therefore the exterioration or manifestation of life and motion ; motion (life) is not the manifestation of a reposing substance. Yet absolute life *is*, exists ; and as existing, it is (according to the preceding paragraph) plural, self-excluding, self-extending. The actuality of life, then, depends upon extension, upon multiplicity ; the manifestation of life lies in the *beside* and the *after*, in *time* and *space*. The Extended, Actual, Material, is therefore strictly affected by time and space ; they are, as it were, born with it. It is consequently incorrect to say that the inner identity of life was *prior* in time to its outer manifestation ; if I forcibly abstract from the latter, the categories of time and space are inapplicable to the former.

§ 6. Every thing in existence is in consequence not only to be *considered* (subjectively) under a twofold aspect, but it *is* thoroughly twofold. We have the phenomenal, external manifestation seized upon by the senses

as the Rigid, Permanent, on the one hand, and the internal, vivifying, moving principle on the other. If I have been understood, it will be evident to the reader that the one *exists* not without the other, — that the latter finds its expression, its verification, in the former, and that the former has its life, its truth, its identity in the latter.*

* There are a hundred passages in Goethe which express this quite forcibly. For instance : —

“ Theilen kann ich nicht das Leben,
Nicht das Innen, nicht das Aussen ;
Allen muss das Ganze geben,
Um mit Euch und mir zu hausen,” &c.

“ Divide life I cannot, — not the Interior, not the Exterior ; the whole must give to all, in order to dwell with you and me.” In Faust, alluding to the much-quoted words of Haller : —

“ ‘ In’s Inn’re der Natur,
O ! du Philister !
‘ Dringt kein erschaffner Geist !’
Mich und Geschwister
Mögt Ihr an solches Wort
Nur nicht erinnern.
Wir denken : Ort für Ort
Sind wir im Innern.
‘ Glückselig, wem sie nur
Die auss’re Schale weis’t.’
Das hör’ ich sechszig Jahre wiederholen,
Und fluchè d’rauf, aber verstohlen ;
Sage mir tausend und tausend Mal :
Alles giebt sie reichlich und gern ;
Natur hat weder Kern
Noch Schale,
Alles ist sie mit einem Male.
Dich prüfe Du nur allermeist
Ob Du Kern oder Schale seist !”

“ ‘ Into the Interior of nature no created spirit penetrates.’ O thou [narrow] Philistine ! Me and my compeers you need not remind of such a phrase. We think : place for place we are in the Interior. ‘Happy he to whom she [nature] exhibits but the outer shell.’ This I hear repeated for sixty years, and curse it, though in secret ; I say to myself a thousand and a thousand times : She gives every thing copiously and without reluctance. Nature has neither grain nor shell ; she is every

They are just as necessarily distinct as they are identical.

§ 7. The vital process of the world (of all existences) is consequently twofold likewise : first, self extension, self-exterioration, an evolution or rather *eversion* of the identity or unity into multiplicity, and again an *introversion* of the multiplicity into unity or identity. This follows strictly from the preceding paragraph ; without the former part of the process, the identity or unity (for the preservation of which unity or identity this self-extension could alone be denied) would not *exist* ; without the latter part, the multiplicity would absolutely *vanish*. There are consequently two primitive vital forces : absolute *self-repulsion* and absolute *self-attraction*. They necessarily belong together ; they arise out of each other, — mutually *state* each other. It is impossible to conceive them separate, and nevertheless they are distinct. That all external movement proceeds from, and is ultimately to be referred to, vital forces, — that the so-called motion by impact with the attendant mechanical construction of the Universe resolves itself into an absurdity, — is too obvious to need further comment.

§ 8. The Exterior, *Matter* (thus I shall designate it in general at first), arises therefore in virtue of the essential self-exclusion of the vital principle, — of its manifestation, which cannot be other than a pluralization. The definition of matter hence lies in its absolute exclusion, — *impenetrability*. The sphere of the Material is the sphere of dilemmas ; it is there that the logical principle, *aut — aut*, — *tertium non datur* (*principium exclusi tertii*), obtains. Matter is the Rigid, Inexorable, — the sphere of

thing at once. Examine thyself above all, whether thou art grain or shell."

finite considerations, as they are appreciated by the mathematical understanding.

§ 9. It must have become clear in § 4, that, if we seize upon the absolute life or motion in its utmost individuality, *as an act*, we obtain the radical duality, the absolute antithesis in the domain of the Material ; we obtain *two exterior* individualities, which are at the same time no individualities, — of which each exists as well by and for itself as by and for the other, — which are as essentially *separate* as they are *inseparable*. To trace this law of polarity through the entire range of finite existences is perhaps superfluous ; I may allude by way of example to positive and negative electricity, magnetic north and south polarity, *vibration* (in the movement of sound for instance, and extended by the wave theorists to light), where the reader will easily see the opposition of duality, — to which otherwise I shall recur, — the opposition between acids and bases, the sexual antithesis in the organic world.

From this it becomes obvious, that, since each individual has its centre of gravity, as it were, out of itself, — since the one not only exists by and for itself, but equally by and for the other, — the world of finitudes must be a world of mutual subservience. The understanding therefore justly construes the Universe teleologically, — according to purposes and adaptations, — one finite thing with reference to the other.

§ 10. *Matter has no foundation either by or in itself.* Its nature is self-repulsion, exclusion, extension ; in virtue of this exclusion only it exists, or *it exists only in so far as it denies, limits, other matter*. It is essentially *finite in space* ; hence it does not exist *by itself*. But matter, moreover, has no foundation *in itself*. It exists only inasmuch as the purely *Active, Living*, the soul of all existences,

thereby effects its essential *self-mediation*, — as through the exteriorating *Material* this principle of life *comes to itself*. Attaining to an external object by means of a third one is *mediation* ; here, however, the inner moving principle *attains to itself*, to its own reality, by outward material existence, and this I call essential self-mediation. Matter is the *absolute means* ; it exists not in itself, but in virtue of, and with reference to, its inner vitality. It is consequently *finite in time*, that inner vitality being absolute change, motion.

§ 11. The *nature* of matter is self-attraction, — the tendency to annihilate itself, to effect compenetration ; hence the law of universal attraction. Absolute life, absolute activity, if substantial, *exists*, — hence its material exterioration and the self-repulsion and impenetrability of matter ; it exists as *identical, absolute life*, — hence the universal attraction of matter, or the tendency to shrink into a point, the material naught, — the tendency to return to its truth, to its inner life, which is absolute compenetration. The *multiplicity*, the extension, the impenetrability of matter proceeds from the necessary reality of the *unital* life ; the unity or identity of this life is therefore the object of the whole process of existence, and the attraction of matter is nothing but the effort to attain it. — The theories, according to which matter consists of final, unital, *permanent* atoms, the mere change of whose arrangement is to produce the various modifications of material products, are utterly irreflective and groundless ; intelligent chemists (e. c., Dr. Kane) have on that account openly repudiated them. It is extraordinary to witness most chemists in their effort to establish a distinction between a mechanical mixture and a chemical combination. Both are made an aggregate of atoms, the link of coherence being, however, in the former case made to consist in mechanical attrac-

tion, in the latter additionally in electricity. Yet the atoms as such are kept perfectly asunder, though the next moment a chemical compound is defined to be the perfectly Homogeneous in spite of the variety of its atomic constitution, so that in the *smallest possible part* of the compound all the elementary components occur. In the theory of organic physiology these doctrines become more preposterous still, especially as the fact stands uncontroverted, that organic bodies frequently elaborate products, whose elements, atomistically speaking, are not at all to be met with in the medium in which they live. — There is no room here to pursue this subject farther ; let us hope that Chemistry will ere long assume a much more organic aspect.

§ 12. Matter is the absolutely Self-annulling ; its true centre of gravity is its inner life, the Self-moving and Self-sustaining, which I shall henceforward simply call the *Spiritual*, meaning the vital substantial principle of all existences, as it produces itself in and out of its outward material existence. *The value and being of the Material consists wholly in relation.* The Spiritual (activity, motion, life) exists in and by means of matter ; the former maintains itself, *the absolute activity continues itself*, through matter ; in this only lies the value of the latter. Absolute activity, motion, it has been shown, incessantly exteriorates, pluralizes itself from its very nature ; in this plurality the Material is therefore opposed to another Material, but the truth of the latter is not the former, nor conversely. The truth of both is the process of the Spiritual, which realizes itself in them. Hence the futility of endeavouring to explain matter by other material referenes.*

* In Silliman's Journal (April, 1845, pp. 247 - 252) the excellent experimental chemist, Dr. Hare, attributes to Sir M. Faraday some extra-

§ 13. The Material is on this account, as has been before observed, *essentially finite* ; it is essentially opposed to a without, to another Material. It is from its nature affected by the limit, by negation, in its *quality* and in its *quantity*. It cannot be too clearly understood that the whole existence of the Material lies in its *qualitative* and *quantitative finitude* ; the former, especially, *qualitative finitude*, is almost always disregarded, though easily presenting itself to the reflection, that the qualities of an existing thing depend upon *contrast*. — The Material is essentially *finite in space*, because it exists only in virtue of opposition, of negation in its own sphere ; but that it can exist in no other way than by opposition arises from the circumstance, that the active moving principle, *in whose name it exists*, can manifest itself through the Material only, inasmuch as this is a thorough plurality. The whole existence of matter, then, consisting eventually in its being the bearer of a *process* of absolute activity, it is essentially perishable, evanescent, *finite in time*. The whole being and signifi-

ordinary views, which serve as a very appropriate instance. Dr. Hare says (p. 251) : — “ I have said, that, of all the powers of matter which are, according to Faraday’s speculations, to be deemed material, *gravity alone can be ponderable* ” !!! (Hare himself makes gravity, heat, electricity, &c., *material* !) Gravity, then, is a *ponderable matter* ; to be ponderable means, in my humble opinion, nothing else than to be *endowed with gravity* ; so the first “ gravity matter ” must be endowed with a second, this with a third, and so on *ad infinitum* ! Only the most monstrous hunger for palpable matter could swallow this ; — “ *Suadet vesana fames* ! ” And yet they think that the only way to explain gravity, &c., is to assume these “ pervading principles ” as material ! — In the same article, Hare, as the strenuous stickler for the existence of absolute material atoms, maintains (p. 248), “ *that the existence of properties can only be accounted for by inferring the existence of an appropriate matter to which these properties appertain* ” ! That is to say, take away all the properties of a body, — gravity, cohesion, resistance, color, smell, &c., &c., — you still have a *material thing*, which was the bearer of these properties !!! The whole article is a most remarkable production, and well worth reading for any one who wishes to see into what absurdities the most eminent men are wheedled by their materialistic assumptions.

cance of matter is its transiency. All this could be said in a very few words :— Since matter exists merely in virtue of its external limitation, and by reason of its internal relation to a process, it is finite, first in space and next in time. A very trivial axiom contains the same truth. All outward existences are but relative ; quantities and qualities exist throughout by contrast.

§ 14. Eternity, divinity, &c., cannot, then, be predicated of material nature as such ; the divinity of the Material consists only in its incessant annulment, through which the Vital, Spiritual, Divine, eternally regenerates itself. Otherwise expressed, the spirituality of the Extended lies only in its infinite intensation. The Divine is absolute life ; but the Material is the absolutely Exterior of this life ; and not only exterior to this, *but absolutely exterior to itself*. Figuratively speaking, it is the absolute night, which cannot come to and from itself, — the absolutely Limited, the principle of utter egotism. Its vivifying Spiritual, on the contrary, is the All-comprehensive, All-intuitive, because the Identical of the material variety. Again, figuratively : — the Spiritual is the purely Luminous, the principle of absolute generality, the essentially Generous. In the realm of darkness, of the Material by itself, there is self-aborrence, panic, terror ; in the infinitude of mind, eternal serenity, the joy of absolute life, of absolute love, of absolute power. Both Spinozism, in which the Deity is the rigid substratum of all existence, which bases life upon death, and Pantheism properly so called, in which the Deity is but a complex of all crude material existences, are in consequence to be equally disclaimed.*

* The works of Shelley have lately been republished in this country. If I do not mistake his meaning, he generally deifies outward nature and its individual forms, whence, also, his metaphysical abhorrence

§ 15. *Dead matter as such, waiting for the breath of life, does not exist. Whatever exists, exists only in virtue of the life of which it is the expression.* To resort to familiar instances : — the apparent corpse, after the death of any organism, is instantly subject to cosmic vitality ; cosmic forces instantly act upon it. Where we imagine to behold matter without life, it is only because this life, on account of its generality, is beyond our immediate ken. I may even incidentally remark, that it is an attempt, which every one will find fruitless, to combine the idea of existence with that of changeless matter.

§ 16. Material things are not attracted by a distant Ideal (in the sense of Kant and others), above or before them, and do not move in consequence of that attraction, or because they are launched by an external causality ; they change and move through themselves in virtue of their own non-existence, in virtue of their inherent contradiction, whose resolution is the Spiritual. (See § 7.) It has not unfrequently been said, that the Material is pervaded by the Spiritual, — that the crystalline lines of the Ideal everywhere intersect the brute mass of the Real, — that the idea inspires brute matter, and draws it up to the realms of its eternal beauty, &c., &c., — all very fine phrases, but, unfortunately, *mere* phrases. An independent vitality is there given both to the Material and the Ideal ; how they enter into mutual relation, how the Ideal kisses the Material out of the mud, and how the

against subsisting on the flesh of animated beings. To be consistent, he ought not to have eaten any thing at all, for in his view the vegetable must be a Deity as much as the animal. There are many passages, however, betraying far purer ideas. It is not easy to be sure of his meaning, and I candidly confess that I am entirely left in the lurch by many a passage.

Material draws down the Ideal to reality, we are not informed.*

§ 17. It has been shown in § 11, that matter is necessarily finite, because it is that which is absolutely exterior to itself, absolutely plural. † That is to say, the nature of matter is such, that, if the existence of *one* point be stated, that of another is, not *implicitly*, but *explicitly*, *actually*, stated with it. Hence, matter might also be defined as the “abstractly Explicit.” Matter cannot pre-

* Of a similar character are some recent explanations of the “mysteries of life” in this country. I happened, some months ago, to attend a lecture (very enthusiastically applauded by a numerous and “select” audience), where the interposition of “a very attenuated nervous fluid” was made the scapegoat of all the old difficulties in the action of the Mental upon the Material. “What can be more absurd,” the learned gentleman proceeded to say, “than that the ethereal mind should directly act upon coarse matter?” The absurdity, he thought, was “done for,” when he made his “ethereal mind” act upon an “exceedingly rarefied nervous fluid,” and this fluid upon the body. He did not seem to suspect, that, according to his own statement and view, his “exceedingly rarefied fluid” must be either material or mental, so that at best he added to the plight by complicating nature’s “machinery.”—So the very popular theory of a certain quantity of spiritual forces, or vital units, composing the “spiritual part” of the Universe, each of which “enters” a group of material particles or molecules (which, of course, preëxisted altogether independently of life), arranges them so as to convert them into a fit tenement, and, after all this trouble, has the caprice to abandon the structure.—By the way, a theory of that kind, much more ingenious than those I have latterly seen, is contained in the “Considerations on the Universe,” by Carl Th. v. Dalberg.

† Such expressions as “being exterior to itself” may appear very odd, perhaps ridiculous, yet I would be at a loss to word the relation differently. If I take matter as a unit, I have, willing-nilling, other units with it, upon which the existence of the first depends, and conversely. Matter has its *existence* out of itself,—in a material *without*; and its being beyond itself,—in the spiritual process. A material, individual unit, as the understanding would insinuate it, is a nonentity. I again refer to § 7.

sent itself otherwise than *thoroughly sundered*, thoroughly affected with difference ; yet the differents would not exist, were they not simultaneously *one in their ground of existence*, their life. Such is the rigorous necessity of matter, that the absolutely Identical must be kept sundered when actual. The much-discussed *necessity* of matter is its irremovable dilemma, or, subjectively speaking, the irremovable dilemma of the understanding. Matter is the utterly Hard, the utterly Impenetrable, with its rigorous law : what and where the one is, that and there the other cannot be ; but the basis of this law is the absolute unity and compenetrability of the inner life, the Spiritual. Without the compenetrability of Mind, no impenetrability of Matter. To give a somewhat premature illustration (although, properly speaking, there can be no bare illustration in philosophy, since, as will be amply clear to every one who has comprehended the preceding remarks, the Spiritual is its own symbol, and every thought its own illustration) : the affections of our material body, which all depend upon impenetrability, would not be felt, would not *be*, if they were not received in the unity of the soul ; the *Impenetrable* would disappear, if it did not *compenetrate* in the unity of the vital principle. The spatial presence of the Material would vanish, without being grounded in the omnipresence of the immanent Spiritual ; the difference of the Finite would abolish itself, without its living in the Infinite, where there is no difference.

§ 18. The Infinite is not, therefore, something distinct from the Finite in the sense of the understanding. Were the Infinite and Finite thus distinct, *the one would begin where the other ceased*, — they would consequently both be finite, they would limit each other. The Finite is, according to the preceding paragraphs, that which is *essen-*

tially limited, and not only by external fortuity ; *which exists solely in and through its limits*, which exists only in so far as there is a *Without*. We can, indeed, take the Finite *abstractly*, i. e. on its own grounds, and then we are driven on from limit to limit, a progress which is without a truce.* This is the Infinite, usually so called ; it signifies, however, nothing more than that the understanding within its own sphere is without peace ; that the finitudes, referring to each other for their support, are really without support, — that they point to a *Beyond*, which can never be reached in their sphere. The true Infinite is the Spiritual, which lives in the Finite and is inseparable from it. This Infinite, the self-moving life in the Material, contains the finitude, and is contained by it. In this sense we can truly speak of the Infinite, because spatial limitation and temporal evanescence are inapplicable to it.

§ 19. It is impossible to employ the mathematical method (used by Spinoza, Wolf, &c.) in philosophy. Ordinary mathematics are an identification of finite quantities ; and their method fails whenever a transition is to be made from one order of quantities to another, e. g., from rectilinear figures to curves. In this transition the Infinite is always involved ; in common mathematics, every curve is construed as a polygon of an infinite number of sides. Now it is no more absurd to say a polygonal circle, than it is simply to say a square circle. In the greatest contradiction it exhibits itself, however, in the so-

* In an excellent, but now superannuated book, the " *Traité de Calcul Différentiel et Intégral*," by J. A. J. Cousin, the author, more openly than I have elsewhere seen, says : — " Nous n'avons de l'infini d'autre notion exacte, que celle-ci : qu'il est la limite dont *les rapports* qui augmentent, approcheront toujours de plus en plus, quoiqu'ils n'y atteignent jamais." — " L'idée que nous faisons du zéro, est celle d'une limite, dont les rapports, qui diminuent peuvent approcher continuellement, sans jamais se confondre avec elle."

called Calculus ; the differential is assumed to be something and nothing at the same time. I define a differential to be a quantity whose sole value consists in its referring to another quantity and expressing a ratio, but which, taken by itself, is zero. The old jocular definition, the differential ratio is the soul of departed quantities, is really witty. — Newton seemed to be fully aware that it is impossible to construct a system of mathematics upon the basis of constant quantities, or upon *quantity as such*, rest ; — that quantities turned absolutely variable under the hands, as it were, of consistent mathematicians. I do not, therefore, consider D'Alembert's repudiation of Newton's fluxional method, on account of its being founded upon the idea of *rate*, and involving the conceptions of space and time, as anywise just. Had D'Alembert been called upon to say *definitely* what he meant by his *differential, ratio, limit, &c.*, without resorting to the idea of movement, he would no doubt have been sorely puzzled. He actually defines the limit to be "a state to which a quantity *continually and incessantly* approaches." The method of tangents, by which students are most easily initiated into the Differential and Integral Calculus, clearly involves rate. Newton himself gave countenance, however, to the objection, by starting from the positively Quantitative, saying that lines were generated by the motion of a *point*, surfaces by the motion of a *line*, solids by the motion of a *surface*. He thus preëstablished point, line, and surface ; but not only is it impossible adequately to *exhibit* the point, &c., but it is impossible to *conceive* them on quantitative grounds. The point is that which *is* and *is not*, quantitatively speaking ; we come infallibly to this contradiction, which lies at the bottom of all the so-called existences, simply because their absolute basis is motion. It is now a matter of small importance, whether we use the term *differential*

ratio, or *fluxion*, *limit*, or *fluxional coefficient*, or, rejecting both, substitute Lagrange's serial development of differences, with its *first derived function* (which brings us back to the theory of involution, where, after all, we recur to the old difficulty in establishing the differential method on the grounds of mere definite quantity).

§ 20. To say that matter consists of finite, indivisible (absolutely hard) atoms is to say that there is a *dead* existence. We are forced to *conceive* matter as infinitely divisible, because matter is that which is essentially self-exterior, essentially multiple. It is a contradiction in itself to make a material body an aggregate of unital, indivisible, *material* atoms ; for whatever is material is extended, — comprised in, or rather comprising, *dimensions*.* Material atoms would be the same as material points, which every geometrical tyro knows to be a downright contradiction. The truth is (I repeat it), that matter cannot be comprehended from its own data, for it exists not through itself. Matter is essentially *crazy* ; the understanding becomes *literally insane* in following it up to its ultimum. The understanding is forced to admit that the possibility of dividing and subdividing matter is unlimited, because it cannot conceive matter otherwise than as multiple, as contained within dimensions, in space ; and the idea of space is that of juxtaposition, of *severalty*. We must understand matter, therefore, as infinitely divisible, as decomposable into parts infinitely small. But the understanding is conversely forced to admit that the successive addition or aggregation of parts *infinitely small* will never yield a finite quantity of matter again. The understanding here inevitably wars against itself. †

* Dimensions, from *dimetiri*.

† The understanding is always entangled in the mazes of its own absurdities, of which the antinomies of Kant, given in the Second Part,

§ 21. The theory of the morphologists, that brute nature will, of her own accord, and by dint of her own forces, percur a series of stages, — that therefore (as even Oken and other excellent naturalists have it) vegetables and animals originate of themselves in mineral solutions (*generatio æquivoca*, — for though Oken repudiates the name, and says in his book, “*Die Zeugung*,” *omne vivum e vivo*, deducing all living products from primitive infusoria, he must after all get his infusoria out of unorganic matter, and therefore by *generatio æquivoca*), and that natural forms will, of their own accord, progress to higher stages, is futile. No difference, whether it be said that the craving creates the organ, — that when a necessity is felt by an animal, for instance, the organ forms itself to satisfy it (which is the gist of Lamarck’s theory), — or whether the addition, greater development, &c., of or-

furnish examples, — a few only of the numberless. The validity of the understanding and of its law, “to be or not to be,” obtains only in the sphere of material finitude, of difference and comparison; beyond this it is of no avail. On that account the rules of the understanding (or, as the phrase goes in England and the United States, the teachings of common sense), as applied to higher philosophy, are to be rejected. The absolute sway of the understanding is upheld by the Voltairians, by the so-called Rationalists of Germany, by the Lockian school in England, &c.; and all these men do not themselves know what they do and mean. Their charges are not to be blinked, but to be taken at the word; their “common sense” drives them from its own grounds, and the ridicule of which they are so lavish is turned against themselves. Their profane derision of divine relations is but the villany of conceit. A French author, for instance, puts into the mouth of the Deity something like these words: — “*Je disons — car enfin je sommes trois*,” — little suspecting that this pretended absurdity was an undeniable speculative truth. The Deity, the absolutely Spiritual, cannot be otherwise conceived than as unity in trinity: first, the Spiritual, abstractly taken, independently of the exterioration, — the “word”; next, the exterioration abstractly taken, — the “word made flesh”; and, finally, the Spiritual attaining to its concrete unity from the exterioration, — the Spirit as really such. Each of the three is perfectly the same with the others, and still they but constitute the Integral One, which cannot be thought as One without our thinking the Three.

gans, entire modification of the organism, be made dependent upon a prolonged period of gestation, — the statement of the theory is at the same time the statement of its own insufficiency. Whence the craving ? whence the prolongation of the gestative period ? — Nature cannot promote herself to superior dignities. The progress is in the Spiritual, which is essentially a progress from and towards itself ; this, of course, is simultaneously, then, a progress of the Material, — but of that specially hereafter. The statement (which has, for the rest, been rebutted by Cuvier and others, on empirical grounds), that Nature, in her evolution, forms an uninterrupted (continuous) gradatory series, originated in the assumed self-movement of Nature. For Nature, in so far as she is material, cannot act, even transmissively, otherwise than by immediate contact, as the understanding holds this contact. This immediate contact involves a contradiction again ; I can just as easily prove that two impinging bodies touch each other immediately, as that there is an intervening chasm. For, on the one hand, without actual contact no material action, and on the other, without an intervening void no distinct bodies, and consequently no question any more of contact. In other words, the understanding is compelled to assume the absolute continuity of matter, and again it is compelled to assume its absolute porosity. — To return : if the action of matter depend upon immediate contact in the abstract sense of the understanding, we have unavoidably an absolute gradation *as the record of that action*. But once more be it said, material nature is essentially impotent ; the metamorphosis, and thence the variety in the succession and co-arrangement of natural forms, the continuity of the series, is a *spiritual*, not a *material* continuity.* The coherence is that of logical

* In his earlier years, Goethe had written an essay on nature, on which, at a more advanced period of his life, he commented. Among

deduction, not of material propagation. The old law, insisted upon with so much stress by Maupertuis, that nature never proceeds *per saltum*, is not true in a material sense.

§ 22. I have above expressly foreclosed the supposition, that *finite motion*, which proceeds from and towards definite spatial points, was here made the Absolute. Motion, substantially taken, or the substance moving, acting in itself, — in a word, the *living substance, absolute life*, — is the ground of all things. The word Spirit or Mind has been subsequently introduced; I avoided it at first, because it would then have given rise to vague associations. Mind is the absolutely Restless in itself, the absolutely Creative, the absolutely Free. Mind is not the blank of abstraction, not the *caput mortuum* of the External. The Deity, the absolute Mind, is the absolute intrinsic process, — the substance which causes, produces itself, — gazes into its own eye. — I beg the reader's pardon for the repeated use of the word "absolute"; other expressions, such as *eternal*, &c., are associated with the idea of time, which is a category inapplicable to the Spiritual. — If I have said, that, to maintain and to assert itself in its identity, the Spiritual realizes itself as the Material, it will not be inferred that therefore the Material *precedes* the actual existence of the Spiritual as such; that would be the greatest misconception of every thing I have said. *In*, not *after*, the act, in which the plurality of the Material

these comments there is a very interesting remark, which is quite pertinent here. "The complement" (to the views contained in the essay), he says, "is the perception of the two great spring-wheels of all nature, *polarity* and *progressive gradation*, — the former belonging to matter *materially considered*, and the latter to the same *spiritually considered*. The former (matter materially considered) is in *incessant attraction and repulsion*; the latter (matter spiritually considered), in *incessant advance*." See Goethe's Werke, Cotta's 8vo edition, I. p. 460.

breaks forth as the self-realization of the Spiritual, this likewise flashes up as the absolute Mind, as the light of eternal self-consciousness. I use the present tense here, because I cannot use the past, present, and future at the same time, or rather, because I have no tenseless verb. But the Spiritual becomes phenomenal *essentially*; it is its being to realize itself in the Material. Now the Material exists in the categories of time and space. Consequently, whatever is in the Spiritual as unital intensity is likewise found in material nature, therefore in time and space, as succession and co-arrangement. The absolute act of self-evolution will hence be disjunctively represented in its phases in the Material. We shall consequently have, —

1. The Spiritual as the absolute origin of all existences, abstractly taken.
2. The exterioration of the Spiritual, as the manifestation in existence, abstractly taken.
3. The Spiritual as thus sustaining itself, regenerated in its exterioration, or the Spiritual taken in its concrete identity and truth.

This is not an arbitrary division; the nature of the Spiritual presents itself thus as *explicit*. The Spiritual repels its own nature from itself, in order to have the infinite joy, as it were, of gazing into its own countenance, thereby to comprehend itself in the rapture of boundless love, and to be its infinite self-absorption, self-attraction.

§ 23. The Spiritual is its own source, its own emanation, and its own direction; it is its own force, its own material, and its own structure; it is its own painter, color, and picture. Beside it, there is nothing; whatever exists, exists only in and through it. Matter is not a hearth, upon which afterwards the flame of the Spiritual is kin-

dled ; the Spiritual is at once the hearth, the process of combustion, and the appearing flame.

On this account we can comprehend material nature only as one with the Spiritual. The understanding may compare and distinguish, sever and compose, chain and measure, ever so long ; it will, after all, know nothing real. What is knowledge of a thing ? If I truly know a thing, is it not then perfectly transparent to the Spiritual in me, to the mind ? — is it not thoroughly luminous to the “mind’s eye” ? — does not the light of the mind fill the place of every part and particle of the thing ? Does not the thing, therefore, perfectly *dissolve in mind, resolve itself into the Spiritual*, when there is question of intelligence ? *Must not that which I know enter perfectly within me, become unreservedly my own, identify itself completely with my mind ?*

§ 24. The so-called different modifications of the Material are, in conformity with the above, so many different *phases* of the Spiritual in its outward existence. In the old view of the nature of material bodies, a substance was first taken as the absolutely *primum* of all existence ; then the qualities, invariably conceived as material likewise, were superadded. That is to say, to the material substance there was added, e. g., first, so much specific gravity, then so much latent heat, so much electricity, so much color, such taste and smell, &c., &c. Now let us take away once from a material body its gravity, its heat, its color, its taste and smell, — in general, its qualities, — what have we remaining ? We will not even speak of the mysterious compenetration of these qualities, — of the circumstance, that, for instance, a roll of sulphur is *throughout* yellow, *throughout* of its peculiar smell, *throughout* of its determinate specific gravity, heat, &c. The non-interference of these qualities in the old point of view

must remain as necessarily, not a mystery, but a downright contradiction and defiance of common sense, as Dalton's law, that gases, no matter how compressed, act as vacua with respect to each other, — that after having compressed the greatest practicable quantity of one gas into a closed space, we can further introduce of other gases successively just as great a quantity as if the first were not there at all, — or Doebereiner's, Mitchell's, and Graham's law of diffusion, that, if two or more gases, each contained in a separate vessel, be placed above each other, the lighter uppermost, the communication between them being left free, they will mix, the lighter descending and the heavier ascending,* — laws which will remain an everlasting poser to the atomistical chemist. - But this incidentally here.

§ 25. The whole theory of two independent factors of existence, Mind and Matter, Force and Inertia, is an absurdity. From this proceeds the old division of all science into a sphere of formalities, — logic and mathematics, — and a region of realities, — physics, — the former being made the Ideal, whose object it was to conquer and to subject the resisting mass, so that the struggle between two absolutely inimical powers became the principle of all life. Between the radically Hostile there can be no peace, and life could, in this view, at best be the incessant advance of the Material towards such a peace, towards its conformity with the idea, towards reason. Indeed, there was not even an earnest of this, — no pledge or warrant that the Ideal would not succumb in the strug-

* These two difficulties could be resolved into one, the latter law being made a consequence of the former, were it not, that, after all, the diffusion depended upon the densities, the velocity of the diffusion being inversely proportional to the square roots of the specific densities of the gases respectively.

gle, that the resistance would not master the force. — The world is indeed founded upon opposition ; but not upon the opposition of principles perfectly strange and therefore hostile to each other. Its opposition is that of the reflectively Antithetical, which meet face to face only because they eternally love each other. The Divine, Spiritual, is not the formalizer of the radically Extraneous, but it shapes itself in the self-projected ether. There is combat in nature only because infinite activity, infinite life, is the being of the Divine ; and activity, life, is combat, because it is endeavour. Or, can you conceive life without combat, and the Divine without life ? There is no other method of reconciling the labors, the apparent wars, in existence with absolute enjoyment ; activity, labor, is the essence of joy. In many ways we can *palliate* the contradictions of life ; in this way only can we *solve* them. No other theodicea than this. In particular, finite instances, life is subservient, not merely to itself, but also to *extraneous purposes* ; hence labor is pain ; in the Infinite, all purposes merge in one ; life subserves only itself, — it is its own object, its own product and result ; then activity is no longer labor, it is happiness. He who in an object without him meets with himself is happy ; the Divine, therefore, for which every objectivation is but that of its own being, is pure happiness, bliss.

§ 26. The laws of the mind are also the laws of material nature. Nature is thoroughly reasonable, because nature is *thought* into existence. Nature syllogizes as strictly as the most perfect logician. When the naturalist reasons upon the phenomena of nature, does he not then take it for granted, *a priori*, that nature is founded upon reason ? When he extends his reasoning to the farthest limits of the Universe, and applies it to the minutest chemical transformations of a body, does he not then

identify the laws of his mind with the laws of the material world? Could he take cognizance of laws without, which did not dwell and energize within him? Is not, therefore, his mind perfectly identical with the principle immanent in nature, in virtue of which her forms are evolved, by which her variations are actuated? Is not, then, all nature a thought? — It does not follow from this, by any means, that the reality of nature, the “palpable solidity of material bodies,” is thereby converted into an illusion, as must be abundantly evident from the preceding paragraphs. — It would not be difficult to designate the existence of nature by a variety of figurative expressions; nature might be called a succession of sounds produced by the eternal melody of the Spiritual, — its forms a system of consonants in the language of life, which are nothing without the vocality of thought, — the variety of colors produced by the light of the Ideal, &c. Nature is the absolute symbol of the Ideal, — the indispensable figure by which the Spiritual demonstrates itself. Without the unity of the mind with the *true nature* of the material world, the latter would not only be incomprehensible to man, not only be no object of his intelligence, but not even an object of his consciousness. The mind would see a void in nature, if it did not recognize itself there; it would gaze upon the utterly Dark, upon an absolute night, upon an abstract vacuum. No reciprocation of any kind between the radically Heterogeneous.

EVOLUTIONS.

§ 27. I now enter upon the task of specially tracing the development of the Spiritual, such as this development is and must be prompted by its own inner nature, which in the progress of its forms *merely unfolds itself*. It has become evident to us, that the only admissible conception of the Spiritual is that of *a unital, infinite, internal, substantial movement*. I cannot help being apprehensive, lest, in spite of my distinct statement to the contrary, I be understood as identifying *motion, such as it appears in the sphere of materialities*, with the supreme Spiritual; and again now make the remark, which to most of my intelligent readers must be supererogatory, that the question simply is, *from which "point of view" the Spiritual is to be considered*,—from that of *rest and identity in the sense of perfect qualitative and quantitative coincidence*, or from that of *movement*. Hitherto that of rest has been the station of philosophers, to the best of my knowledge; * but, as I have proved in the first para-

* That since Heraclitus the movement (flow) of all things has often been asserted is no proof of the contrary; the "thing" is, whether this has become *the principle of their deductions*, and whether they have consistently reared the superstructure of science upon this "solid though moving" foundation. Even Hegel, whom I reverently regard as one of the philosophical saviours of nature, though he sees clearly and expresses distinctly that the existence of things is only their origination

graphs, it presupposes that of internal activity, movement. If, then, there is to be *any* insight into the Spiritual, we must take our "stand" on the principle of motion, as the most immediate revelation of the Spiritual.

It may seem to some, after all, from the course of reflections contained in the foregoing paragraphs, that the contrast between motion and rest, between activity and repose, is founded solely upon an assumption, or upon the systematic distinctions of philosophers generally, which we are not obliged to admit; two things, therefore, being still incumbent on me for proof, — first, that movement and activity are not only *prior to rest or repose, but the absolutely primum*, the FIRST principle in existence; and, secondly, the NECESSARY EXISTENCE of the absolute activity, of the supreme Spiritual. It may be thought that the great question of absolute *existence* or absolute *non-existence* is still at issue. The query might be put, — Have we comprehended the logical necessity, in virtue of which that substantial activity, upon which the whole fabric of this philosophy of nature is to rest, exists? *Why not an absolute non-existence?*

Both difficulties are met in the answer to the last question. Let us endeavour to think this non-existence, this absolute Naught. *Can you conceive the idea of NAUGHT, without, AT THE SAME MOMENT, IN THE SAME INSTANT, conceiving the idea of BEING, which must furnish you the contrast, in order to enable you to think the naught?* In

(*Werden*), is by no means consistent in the application of this "*aperçu*." His construction and his method belong strictly to the school above pointed out; his consequences are not unfrequently fallacious, and his transitions and statements arbitrary. He is like a man who has invented gunpowder; now he wishes to shoot, but unfortunately with the old weapon, the lance, and at the same time — to keep the lance in his hand. Hence also the unintelligibility of his language, the jargon of real and ideal "positing," of being *at* itself and *for* itself (*an sich* and *für sich*), &c.

other words : can you conceive this " eternal void " otherwise than as *non-existence, non-entity*, in which existence, entity, are at once implied ? If naught and being, to which the stretch of abstraction brings us, *cannot be thought without each other, they must be logically in one. What is this one, this unity comprising naught and being ? Obviously, absolute origination, absolute activity, absolute primitive movement.* I might go farther, were it relevant here, and proceed to consider the question : Can you conceive origination, without something originating, without a resulting existence ? Whoever thinks will find *that the assumed naught forces itself into existence on its own grounds, and that this first existence is absolute movement.*

§ 28. The development of the Spiritual through a series of material phenomenalizations brings to explicit existence what was already implied in its infinite nature. As the absolutely primitive life, — movement, activity, — it is internally unital, and nevertheless, *even abstracting from its material exterioration*, perfectly inconceivable otherwise than as a *plurality of individualizations*. For let the reader again see whether he can " realize " the idea of movement without that of a *severalty of acts*, and conversely, whether he can attain to the conception of the latter as constituting a movement, without being compelled to establish the *perfect internal continuity*, and therefore *unity*, of the movement. I beg leave to direct the reader's particular attention to this, as all I shall have to say will be unintelligible without the clear comprehension of the above principle. The Spiritual is, as it were, a tone in eternal solid identity, which nevertheless sustains itself in unceasing individual vibrations. Its exterior manifestation in nature is the mediation of these two categories, — the mediation of the Spiritual in the capacity of the Uni-

versal, Ideal, with itself in the capacity of the Individual. In the form of the Universal, Ideal, it already contains all the phases of this manifestation up to its identification with the Individual ; *it is only this whole immanent process of self-generation* ; its truth consists in the totality of the development. Not some particular phase, not some fixed form, not some imaginarily permanent phenomenality, is the truth, but the Spiritual in its sublime march through its own fields which start up beneath its feet. Not the footsteps are the truth, but the ever-marching spirit ; not the particular glance, but the ever-seeing eye ; *not this or that word, however pregnant with meaning, but the process of eternal thought and utterance.*

THE SPIRITUAL AS THE UNIVERSAL, IDEAL, IN THE FIRST SPHERE OF ITS EVOLUTION.

Space, Time, Motion.

§ 29. THE Spiritual, the absolute primitive movement within itself, can be real and substantial only in stating itself exteriorly ; and we have repeatedly seen that this statement is absolute multiplicity. That the result of the statement, the Exterior, is *BUT a statement*, and the statement of an internal *movement*, implies its transience ; the statement is from its very nature transient. This transience must exhibit itself, therefore, in the stated Exterior, wherever we take it ; it must appear throughout, for the Exterior is *inherently* transient. Otherwise expressed : the Exterior is but a transience in position ; a position *in One* of existence and non-existence, — or a *position* and *negation* in one. The Exterior can therefore first be taken *as such*, and then it is *SPACE*, in which the transience, dependency, shows itself as abso-

lute *relativity* ; secondly, as *the bearer of its vivifying movement*, and thus it is *TIME*. Or, the Exterior as an *existence*, as positive, fixed, is *space* ; as a *negation, non-existence*, it is *time*. Logically, the first two exteriorations of the Spiritual are therefore *space* and *time*. They are both *abstractions*, i. e. they *are* only, inasmuch as the understanding forcibly keeps them asunder, though their truth is their *being in one*, their inseparability in spite of their distinctness.

I do not know whether varying the expressions can aid the reader in the distinct apprehension of these first categories. The self-effusion of the Spiritual, the result of which is the Exterior, is the expansion of the absolutely Ideal, Intense, into absolute extension and continuity, — the first and strongest contrast in nature. *This extension, positively taken, taken on its own grounds*, or, in other words, *abstractly by itself*, is *SPACE*. (In the sphere of realities we always have relation, reference ; if we set aside that relation in any thing, and merely look to the thing's existence in itself, we assume it *abstractly*.) *Taken, on the contrary, as the PRODUCT of the Spiritual, the internally Moving, AS THE ETERNAL GENERATION, OR rather REGENERATION, of the Spiritual*, it is *TIME*. Space and time stand, figuratively speaking, at the threshold of all materialities ; in time and space these are incessantly reproduced, and, conversely, time and space incessantly reproduce themselves in the materialities. Both time and space are the children of the untiring self-expulsion or self-repulsion of the Spiritual. They are spiritually *One*, ideally identical. — As I shall have frequent occasion to use the word *identity*, I again observe, — superfluously, perhaps, since it is clearly contained in the foregoing paragraphs, — that the higher identity here spoken of means more than *sameness*, which is the identity of the understanding. This latter category, the coincidence of two things

in quantity and quality in the realm of limited realities, presupposes the ideas of quantity and quality ; if, then, *there are higher grounds* than those of quantity and quality, an identity *not excluding*, but *demanding*, simultaneous difference is by no means inconceivable. So much for those who are constantly astraddle of a phrase, and speak of a *contradiction in terms*, while even, if they look closely, *the word Contradiction is meaningless to them.*

§ 30. Now, what space and time *ideally* are, they must *really* become ; for it is the whole labor and process of the Spiritual to maintain and to reproduce *itself*, i. e. to produce really what it is ideally ;— it loses and repels itself, as I have repeatedly said, for no other purpose than that of recovering and identifying itself. It *states* itself, in order to *be* itself. This statement is from its nature *discession, expansion*, a statement of the *Relative* and *Multiple* ; but from its nature it is, moreover, a statement of the *re-identification* of this Multiple. Time and space, whose *first* reality is their difference, will therefore further state their identity as *real unity* ; and this statement is real *MOTION*. Real motion is the union of space and time. The motion under consideration here, namely, the *primitive motion in the sphere of the Exterior*, is not motion in *any given, definite direction* ; it is motion *IN ALL DIRECTIONS*, to which we have no observable analogon. *It is the pure movement of abstract statement and annulment.*

From the above it will be clear in how far the Kantian theory, that space and time are pure forms of the mind, is true. The presumptive contrast between *form* and *material*, upon which Kant's assertion is founded, is radically bad ; *the forms arise in and with the self-materializing Spiritual*, and are by no means adventitious. The definition of Schelling, that space and time

are the first realizations of the Real and Ideal respectively, can be construed into almost any thing.

§ 31. The so-called *dimensions* of space present no difficulty in their deduction, and depend, like all deductions, upon the inherent *references* of space. Space, the absolute extension, as *opposed* to the Spiritual, is *spatial infinitude, unbounded* (mathematical) *solidity*; as opposed to the SPIRITUAL, to the absolute intensity, it is *a point*, — in space, and yet spaceless; as the unity of the two, it is the *line*, — extended intensity or punctuality. If we seek for a spatial analogon of time, it must be the line, for it has been seen that time is the Extensive considered in its ideal bearing, the mediating unity therefore between extension and intensity. Now the absolutely Extensive, the Solid, is from its nature limited, — it contains the limit; and this limit of solidity is the *surface*. Thus punctuality, solidity, surface, and linearity are inherent in the idea of space; we are logically compelled to see space under this fourfold aspect. The mathematical statement, that the motion of a point generates a line, that of a line a surface, and that of a surface a solid, is true only in the following sense: — Spatiality, extension as such, is the absolute reference to the without, *beyond itself*, absolute relativity. If, then, we ideally isolate a point, we are at the same moment compelled to refer it to ideal adjacent points, and thus the idea of the line starts up in the mind spontaneously. The same takes place with the line and with the surface. The ideas of point, line, surface, &c., from their nature, give birth to each other. The movement of a point, &c., however, *as something real, to which the motion accedes*, is a false assumption.*

* Already Hegel has pointed this out. See my exposition of his philosophy of nature.

§ 32. Of the infinitude of space I have spoken before. It is recollected, that space, as the absolutely Extensive, is *throughout* relative, — is only, no matter how we take it, by referring without itself. This thorough relativity drives us from limit to limit, if we endeavour to inclose space within definite bounds ; space is this constant warring, this immanent contradiction, which cannot be reconciled on spatial grounds. We must be conscious that this apparently dead extension is a manifesto of an inner living intensity ; and in this intense unity we have the truly Infinite. In spatial infinitude the bounds are absolutely indeterminable, unassignable, and yet the nature of space craves bounds ; the truly Infinite is that in which the category of bounds is without application ; it is not the *Illimitable*, but the *Unlimited*.

Pure internally moving Materiality. — Attraction and Repulsion.

§ 33. THE first exterioration of the Spiritual has been examined in its silent, immanent bearings. We have the pure moving extension (see § 30) ; this in its totality contrasted with the Ideal (spiritual Universal) is the abstract internally moving Material. The Ideal, being the internally continuous, solid Intense, is thus opposed to the externally continuous, solid* extension. The abstract totality of extension in itself is devoid of all internal difference and distinction. It is, from its ideal origin and nature, absolutely *moving* ; *but this motion is yet perfectly the same as absolute repose*. For there are no distinct particles as yet successively occupying distinct spaces ; in every respect there is thorough homogeneous-

* Solidity is here taken in the *mathematical*, not in the *physical* sense.

ness. We have absolute multiplicity, but a multiplicity intimately and completely blended in extensive continuous unity. It is indifferent to me whether this primitive matter be called *ether*, or any other name be given it; the only thing important is, to keep this absence of further material differentiation in view.

The Ideal, in stating itself and becoming absolutely multiple, is thorough self-repulsion; but on this very account, namely, that it states ITSELF, an ideal unity or intensity, it is at the same time absolute ATTRACTION. For the reason above given, however, the entire absence of differentiation, and the lack of all distinctness by which motion could become real, there can be no elasticity in this ether (as we have it in air), nor gravitation manifesting itself as central tendency and pressure. This ether, then, if we will so call it, is destitute of gravity, just as it is destitute of real particularization; it is the perfectly pure, virginal matter.* Its relations to individual forms and its manifestations in the concrete material sphere can be understood only after the general determinations of individuality have been ascertained; and I shall consider them in their appropriate place.

THE SPIRITUAL IN ITS FIRST GENERAL INDIVIDUALIZATION.

Principles of Individualization.

§ 34. THE progress of the Universal, Ideal, to the Individual is the progress to its self-identification, and founded upon its inherent eternal nature; the necessity of its individualization follows from this nature with log-

* If gravity and exclusion be made essential properties of matter, this ether is of course not material; the word Matter, as *here* taken, implies only the contradistinction to the Ideal.

ical strictness, and has been demonstrated. To say that the Spiritual is in itself the pure impulse of self-position, the absolute self-organizing life, the self-thinking *vous*, the self-conceiving imagination, and so on, is a fascinating asseveration ; but its truth must present itself to the mind with irrefragable force, with the binding stress of thought, and I have not therefore relied upon a mere play of words. If the reader has looked in vain for mystic symbols and poetic adumbrations, let him remember that our task here is to *think* nature, not to chime in with nature's reveries. In the proper place we are all at liberty to vie with nature's imagination in enthusiastic rhapsodies ; but this is not the place.

Empirically, as well as logically, certain laws have usually been established, in conformity with which the activity and life of nature and the evolution of individual forms are said to take place. They may be, and often *are*, very correct ; but must be taken, not as formulæ externally applied, but as external expressions of the inner nature of the Spiritual. The laws of nature which are ordinarily specified obtain only in the domain of the Individual and Particular. *The relation of the Multiple, Exteriorated, Material, to its immanent Spiritual gives rise to strict relations of the individual and particular terms of the Multiple TO EACH OTHER, and these are the so-called LAWS OF NATURE.* Those commonly given are rules of the understanding, and must be taken for nothing more. Before separate particularization and individualization, there is consequently no question of laws. It is readily seen that the laws are nature's own offspring, and not written by nature after dictation.

§ 35. The Spiritual is present in the Individual as its life and process, as the soul of its evolution and trans-
ition. Every individual existence is but a living history,

and its truth, its real being, is its entire development through all its phases, *taken as a unity*. Obviously (and according to proofs already given) this unity is the unity of life, of activity, of a process, — a unity therefore *in* and *with* differentiation, not a unity in contradistinction to and exclusive of difference. The truth of the Individual, and of the Spiritual generally, is a unity *alive* in itself, — the unity of a development, the absolute identity of the Universal (ideal Spiritual) and Particular (Material, Multiple). No matter how strenuously this unity in the difference be repudiated by the understanding, a thousand illustrations might be adduced ; here is one which is at once the fact and the symbol. In the common lever, a mass of, e. g., *one* (pound, &c.) will balance a mass of three (pounds, &c.), provided the distances of these two masses from their fulcrum, their fixed centre of motion, be as three to one. The *efficient, active* unity (momentum) of one pound at the distance of three (inches, &c.) is here equivalent to the efficient unity of three pounds at the distance of one (inch, &c.). According to the laws of the understanding, this is an absurdity ; one pound is here equivalent to three. The understanding, *on its own grounds, those of identity* in the sense of rigid, quiescent coincidence, can never comprehend how two gravitating masses of unequal weights can be equivalent to each other. The identity is a higher one. The rigorous proof and explanation in mechanics depends upon *differentiation*, — or, in reality, upon the reference to the *motion* of the mass, which is saying the same thing. In the motion the *ideal* unity of each of the two momenta is *realized*, for it is differentiated ; but the equilibrium equally exists in its ideal efficiency, *potentiâ*, without an actual movement of the system. This so-called *momentum* (in the sense given to the word in mechanics) is, then, a relative instance of a *unity, which presupposes the*

differentiation, in which the differentiation is immanent. The one pound is equivalent to the three pounds, even when the system is at rest ; but you cannot comprehend this without referring to the *motion* of the system, to a difference whose immanent unity is the momentum. Evidently there is here a balance of two idealities, when the understanding, as such, ought to look for material sameness. — I have selected this instance just on account of its triviality ; a host of similar ones lie near, and will readily suggest themselves. In some measure this example is an analogon of all individual development, and I will endeavour to illustrate the latter by a comparison with it, not pretending to offer it as any thing more than an illustration, since the evolution of the Individual must be its own logical warrant and verification. We have first the lever at rest. All efficiency is there only ideally prefigured, and yet *real*, — slumbering, inoperative, and yet present. Thus it is an image of the Universal, of the Ideal, and, in the sphere of organic individualities, of the soul of the individual prefiguring its organization. Now it moves, becomes thoroughly different, *is at every time and place intimately the negation of itself and its own assertion* ; thus it is the type of the Particular, the absolutely Multiple. Yet, as thus differentiated, it is nothing more nor less than an ideal, prefiguring unity ; the Different is distinct from and yet identical with that ideal prefiguration. Thus the Particular is identical with the Universal. Not only *all* the particularities possible, but the particularity *as such*, *any* particularity in the lever, the smallest so-called part of the motion, exhibits in express reality with all perfection the *rate* of movement, &c., — in short, the momentum, the ideal unity ; thus the Particular, as the realization of the Ideal, is *in every item* the exhibition of the Universal. Applying this now further, the seed of a plant, e. c., would correspond to

the lever at rest, to the momentum ; the actually existing plant, as it develops itself, to the lever in motion, to the momentum exhibited, &c., &c.

§ 36. The Spiritual lives in the Individual as its process of evolution ; it is vitally present in its whole processual identity in each individual form. The Individual, on account of this spiritual processuality, is *all origination and evanescence, all advance and regression*, all movement, all activity, all struggle, all conflict between what is not and is to be. If we now enumerate the first general consequences flowing from the above, we have the following principles :—

1. *The Spiritual is actively present with all its phases already percurrent in each individual form ; and the individual form is engaged in, OR RATHER EXISTS AS, a perpetual conflict between the Ideal and Real, between the Universal and Particular ; and consequently, in the progress of the Individual up to its complete identification with the Universal, exists as a thorough conflict between lower and higher stages of development, the lower stages always representing an aspiration onwards, an as yet unrealized ideality, in short, the Ideal, which is thoroughly aspiration, and the respectively higher stages the next corresponding realization.* It must not be imagined, that on the inferior stages a certain part only, measured off, as it were, from the Ideal, has become real, the defect being supplied higher on ; but in every new reality the Spiritual *recognizes itself*, so to speak, more fully, as a higher ideality therefore and a new craving, and then necessarily proceeds to realize itself in that form. Hence the primary simplicity and subsequent complexity of the evolutions. As soon as the particularization has taken place, — as soon as we come to concrete matter, this conflict between higher and lower stages will exhibit it-

self as *vibration*, — in other words, as an alternation between a greater and a less “determinateness” of concretion and consistency. We shall meet with this in future in the theory of sound, heat, &c., and, in a peculiar sense, in the theory of light, — all agencies, in which the combat between a higher state of concretion with a lower one is exhibited. This principle might be resolved into two : —

a.) The principle of conflict appearing as vibration, and,

b.) That of the actual occurrence of all the inferior phases in the formative process or life of every individual form, of which last we shall have the most complete substantiation in higher organics.

2. *The Spiritual in the individual form, the individualized process or activity as the identified ACT, exhibits a duality in its particularization.* This principle has been before deduced ; I state it anew here, to have it more immediately present for reference. This law (as it has been termed) of polarity is the basis of Schelling’s philosophy ; but no deduction or proof of it is there given ; it stands simply as an assertion. Unfortunately, moreover, it has been used by him and by many of his disciples as a hobby, as a last, upon which they stretched all existences, taking this for a philosophical explanation. That all materialities are thoroughly antithetical, and each isolated materiality therefore intrinsically relative, so that it would be nothing without its correlated counterpart, and both nothing without their absolute spiritual unity, is clear enough now to the reader.

COSMIC INDIVIDUALITY.

THE CELESTIAL BODIES, THEIR MOVEMENTS AND RELATIONS.

LIGHT.

I. *The Terms of the Cosmic Antithesis in their Distinctness. Solar System.*

§ 37. THE individualization of the Spiritual consists in the self-identification of *absolute activity as an act*. The first paragraphs have taught us that in this capacity it must really exist in the form of a radical duplicity, — as an antithesis, of which the terms are distinct and yet ideally one. Accordingly the fundamental internally moving ether (primitive Material) enters into opposition, becomes concrete, and states itself as this individual duality. This primary opposition is that between sun and planet in the various solar systems, of which I shall take our solar system as an example. — The sun and the planets, then, are the terms of the cosmic duality ; and we are now to examine how first their *distinctness*, and next their *immanent spiritual unity*, are exhibited.

The terms are *distinct* ; consequently they *exclude*, *resist*, each other. *That which resists, excludes, is concrete matter*. Those who accept this transition from the Ideal to “gross matter” with reluctance will do well to reflect, that, even empirically considered, matter is an interpenetration of perfectly ideal relations. Resistance, gravity, color, &c., put in unity, constitute a material body ; and by deducing resistance, &c., &c., we deduce “gross materiality.” Nothing is productive of more illusory opinions, and more baneful to true scientific knowledge, than a neglect to examine and to analyze our most familiar ideas. I particularly request each of

my readers to reflect once seriously, what is the exact difference between his ideas of matter and of mind.

The terms are terms of an ideal duality, — two units, therefore, in the sphere of the absolutely Multiple, — *two material units. Though materially multiple throughout, they are ideally units, and to become such is their tendency; they tend to vanish each in a point, — in other words, they gravitate towards their ideal centre. Universal gravitation has been deduced before, and it is only necessary to remark that it here recurs in the sphere of the Individual.*

It is remembered, that in the internally moving, primary matter (we may in future use the word “ether,” with the definite meaning, however, I have assigned it), in and from which the first cosmic concretions proceed, the movement could not become real, because there was as yet no difference, *no moving item and place*. Both having now been determined, difference having been induced, the conditions of real motion are given, and it remains to be seen how this motion is defined.

Originally the movement was *absolute, — motion in all directions*. Whoever finds an absurdity in this is to be reminded that this motion is not one *actually existing* as such, but still logically real, because *movement* as substantial, movement not *finitely* determined, *not defined therefore in direction*, but infinite, is the foundation of all existences. Our basis is absolute movement; what we have to deduce is *motion in a determinate sense, and relative rest*. We have no original matter at rest, no quiescent bodies, upon which motion is to be conferred.

The only determination which the Material as yet presents is, first, *gravitation towards the individual centres*, and then the *universal gravitation of the antithetical masses towards their common centre*, which of course now becomes phenomenal likewise. *Both impress a RADIAL*

tendency upon the Material, and the "points" of the Material are LINEARLY defined, "fixed." We have then now, as it were, material lines, linearly disposed, which move in preserving their relative position towards each other. It is easily seen *that this is precisely the nature of revolutions around the common centre of the sun and planets, and of rotations in the sun and planets individually.*

§ 38. In the primitive ether the tendencies of evolution and involution, attraction and repulsion, the so-called *centripetal* and *centrifugal* forces, existed, but, for the reasons adduced, remained without reality. They now appear, and with them the cosmic movements. Attraction and repulsion essentially belong together ; one would be nothing without the other, just as in the differential ratio in higher mathematics a differential isolated from the ratio were naught. But, as I have often had occasion to show, the understanding, which looks only *to* and *within* the limit, and not beyond it, which, moreover, does not examine the *nature of limitation*, with logical violence detaches the integrants from their unity, forces upon us the two centripetal and centrifugal forces, assumes them to be antagonistical, accidentally coexisting and originally different, not even reflecting *that an ESSENTIAL antagonism presupposes a higher essential unity.* This last proposition holds true generally, and whoever thinks will find no difficulty in convincing himself of it. I hope that this will be intensely reflected upon by the reader ; relations of this kind are usually rendered more obscure by efforts to make them clear by explanation. — If now the motions of the celestial bodies be construed conformably to the data of the understanding, as has been so admirably done by Newton, Laplace, and others, this is perfectly correct ; although to state as a principle, that one exter-

nal hand, as it were, impressed upon the masses the *central*, and the other hand at the same time the tangential tendency, and thence to deduce the laws of celestial mechanics, is a mere fiction, and philosophically false. Not the system of laws, not the rigor of construction *in conformity* to the centripetal and centrifugal tendencies are to be impugned; but the formality of the principles, which, as given, are abstractions of the understanding, and in that sense—in the sense of separate identities—are groundless. I here reiterate my former statement: *all movement is radically vital*; and in this view it has been well said by the poet, that the celestial bodies walk the skies in the free beatitude of their divine life.* — My

* The forces prompting the celestial and other movements are assumed by Newton to be *externally* impressed upon the existing inert bodies. “Vis impressa est actio *in corpus exercita*, ad mutandum ejus statum, vel quiescendi vel movendi uniformiter in directum.” — *Newt. Phil. Nat. Princ. Math. Def. IV.* “Est autem vis impressa diversarum originum, ut *ex ictu, ex pressione*,” &c. — *Id. ibid.* The charge against the Newtonian philosophy by its first opponents, to which Roger Cotes alludes in the preface to the “*Principia*,” namely, “*gravitatem esse miraculum perpetuum*,” is of course unfounded as there understood, but just in the sense, that no derivation of gravity from the *nature* of matter, no necessity of its existence, therefore, had been offered. — The modern German philosophers attack the Newtonian theory, as will be seen in the second part of the work. Schelling says, among other things (*Vorlesungen*, p. 266), — “The ground for the derivation of the centrifugal motion of the celestial bodies is no necessary (scientific) form, but an empirical fact. The Newtonian form of attraction, although a necessary assumption, perhaps, for an investigation proceeding from the views of reflection (i. e. the methods of the understanding), is of no significance for reason, which takes cognizance of *absolute* relations only. The grounds of Kepler’s laws can be deduced without any empirical alloy from the theory of ideas and of the two unities, which in themselves are one, and in virtue of which any being, whilst it is absolute in itself, is at the same time *in* the Absolute, and conversely,” &c. Of Hegel we have an express “*Dissertatio Philosophica de Orbitis Planetarum*.” He says, *inter alia*, p. 7, — “In iis, quæ ad mathematicas demonstrationes multum faciant, sensu physico plerumque destitutam referendam esse censeo celebrem illam virium [centrip. et

concern here is only with general principles ; the special constructions belong to the particular branches of science, or rather (as there is no real distinction between science and philosophy), of philosophical science.

§ 39. Respecting the first dual antithesis of sun and planet, it must be kept in view that we are only in the first stage of concretion, where we have not yet arrived at solid consistency. The separation of the one great planetary mass into several bodies takes place at more advanced epochs of concretion ; this separation, however, does not impair or destroy their unity as an antithetical term to the sun.

centrif.] resolutionem ; nam quando mechanica motus directio ex oppositis virium plurium directionibus vere oriri potest, inde directionem vis vivæ ex oppositis viribus proficisci non modo non efficitur, sed illa ratio mechanica, qua corpus a viribus ipsi alienis urgeatur, a vi viva plane aliena censenda est. Sed ubi Newton, qui lucem, quam natura simplicem esse voluit, in partes dissecuit, ita alias simplices vires resolvit, lineasque, quibus ad theorematum de illarum quantitativis struenda utitur, vires appellat, physici jure mirantur, quomodo per tractionem phænomeni mathematicam tanta virium multitudo oriatur, quas natura ignorat," &c. Farther on, p. 9, — "Sed ipsa fortassis philosophia ea deducit, quæ experimentalis methodus, philosophiæ nomen sibi sumens falsæ, et infelici cum successu ex experimentis cognoscere aggreditur, cæco quodam studio simulacrum verarum philosophiæ notionum sensibus quærens. Et observari illi insciæ putanda est oppositio virium attractivæ et repulsivæ atque ad hanc motus theoriam adhiberi. Verum philosophia hanc virium differentiam materiæ ita tribuit, ut earum conditionem faciat gravitatem sive ipsam identitatem. A qua ratione quantum absit motus planetarum constructio, inde patet, quod vis illa centrifuga in motum rectilineum directa, nulla penitus corporis centralis habita ratione, corpori tribuatur alteri, unde etiam nullum eorum conjunctionis principium esse, neque quum illæ vires contradictorie oppositorum characterem ferant, cur non in linea recta sed sub angulo, qui lineam oppositionis rectam in duas dirimit, opponantur, explicari potest. Sed eas vires mere ideales esse, neque ullo modo vires physicas eo, quod communi principio carent, in confesso est ; ne ergo hæc philosophia experimentalis phænomenon ex viribus plane nihil commune habentibus, et a se alienis construere tentans ad veræ philosophiæ vires oppositas provocet ; earum enim ratio plane diversa est," &c.

II. *The Terms of the Cosmic Antithesis in their Manifest or Phenomenal Unity. Light.*

§ 40. THE terms of the first cosmic antithesis as *distinct* are sun and planet ; their distinctness, however, could not be without their unity, and that unity manifested is LIGHT. Every individuality in nature or every concrete form is a *differential* unity, and nearly all the preceding investigations have convinced us how inevitably this follows from the principle, that every individual existence is a *process*, because expressive of the process of spiritual life, — that every individual existence, consequently, is a statement *in One* of being and naught, of position and negation ; that therefore the *essential* relation to a counterpart is *immanent* in each individual form, a relation which is the mediating, spiritually radical unity between the distinct terms. The essential relation of the sun to the planet, and conversely, the ideal unity of the cosmic terms, is *light*. In light the unity of sun and planet is stated, *so far as their distinctness as yet goes. They are distinct, not as in themselves differentiated or modified as different complexes of various qualities, but barely against each other, — EXTERNALLY distinct, therefore, and nothing more ;* and precisely their *external* unity is established by light. When one body becomes luminar for another, it states *itself*, its *external form*, AT the other. Simple as this appears, it is of the highest moment.

Light is the Universal, Ideal, out of which the Individual is born ; but it is the Universal, Ideal, not *abstractly*, but the *Ideal of the concrete Individual, the Ideal AT the Individual*, the Ideal as referring to the Individual ; BOTH THESE DETERMINATIONS, IDEALITY AS WELL AS REFERENCE TO INDIVIDUALITY, MUST THEREFORE CONSTITUTE AND BE EXPRESSED IN ITS NATURE. Light

must **APPEAR** as the Ideal, be *phenomenal*; and this phenomenal ideality, or, if we wish, the immaterial materiality, the Material without differentiation, without gravity, &c., is the primitive ether.

Arbitrary views are so deeply ingrained in the minds of many, that it is requisite repeatedly and constantly to enforce principles already discussed; the intelligent reader will on that account exonerate me from part of the fault, if sometimes my reiterations become tedious. I say again, then, it is not a mere accident that sun and planet coexist and move around each other; they are *fundamentally correlatives*, just as necessarily as subject and object. State the sun and you state the planets, and conversely. It is the nature of the one to belong to the other; the indwelling necessity of this relation must therefore be manifest in them, — each one must show at itself, that it is its nature to refer to the other, and this “showing” is *light*. The bodies assert their higher unity the moment they enter into antithesis; *they throw light upon their true self*, which is their ideal identity. Light is thus not merely the *symbol* of mind; it is its *representative* in space. In light we see the essential connection of the two terms of the antithesis, which is founded upon their unity in the realm of the Spiritual; *at the material bodies is shown what lives in and through* their opposition. Light is the identity beheld in extension of the material bodies; it is the written **THEORY** * of matter, the exhibition of the spiritual One in the materially Dual.

Light is the Ideal, Universal, *manifesting itself at the Individual*. As **APPEARING**, as manifest and phenom-

* *θεωρία*, from *θεάομαι* (orig. *θάομαι*), to gaze, see; hence, also, to admire, — *ad-mirari*. Abstracting from this etymological derivation, it might be poetically said, that he who truly theorizes reduces things to their spiritual source, *θεὸν ὁρᾷ*.

enal, it has the first general determination of the Material, — *extension*, such as it belongs to the primitive ether ; as appearing AT THE INDIVIDUAL, *it is the active opposition to the Individual*. This is to be closely reflected upon. Light, the manifest Ideal, the extended Ideal, the pure ether, is destitute of real motion. Motion *is there*, but it cannot attain to reality, because there is no differentiation. Now light is the light of the Individual, the ether referring to the Individual ; it is the Ideal in stating itself as the Individual, — THE SELF-PRESERVING ACT of *individual discession*. With the discession the previously disguised motion appears ; light in its manifestation at the Individual, therefore, is the *pure origination of motion, the transition of the ideal into real motion, bare oscillation as such*, or the expression of its nature : *that it is the contradiction between its pure ideal capacity and its statement with a real individual reference*. In the ether (we may now call it *luminar ether*) there is no concretion, — hence no density ; the luminar oscillation cannot, for this reason, consist in an alternate contraction and expansion of the ether. The ether is *not elastic*, because it is *without consistency* ; and *in this sense* the theory, that light consists of vibrations in an *elastic medium*, is erroneous. Those who are familiar with the laws of interference, of the polarization of light, &c., know, that, according to the wave theory, the luminar vibrations are *not longitudinal*, like the vibrations of sound ; that they do not, therefore, consist in alternate contractions and expansions of the so-called medium.

The detailed development of these fundamental principles is the problem of Optics, where, however, the apparently most complex phenomena, such as interference, diffraction, polarization, epoptic and entoptic colors, &c., are really those which most immediately flow from the idea of light, and which consequently ought to be

first deduced, so that the usual order would be reversed. The undulatory or wave theory, when divested of those notions that have nothing to do with the explanation of phenomena, and are gratuitous assumptions for the sake of making light as material and palpable as possible, is undoubtedly the true one ; and I refer the reader to two books, where exquisite theoretical investigations are given : “ Analytical Optics,” by Schleiermacher, and the “ Exercices d’Analyse et de Physique Mathématique,” by the excellent Cauchy, — especially the latter.

§ 41. Light is not in its nature compound, but perfectly simple. The diversity of luminar movement, of vibration, depends upon the peculiar formalization of the concrete Individual to which it refers. The whole corpuscular theory, with its assumptions and consequences, is erroneous, and might be aptly compared to the ingenious psychological theory of the phrenologists, that the mind is *made up* of several faculties. The thoughtless always most readily accept those pretended explanations of things apparently mysterious, which identify them with this or that tangible object or agency, not suspecting that the “ familiar ” elements of their explanation *thoroughly presuppose the thing explained*. Light is something quite *anterior* to tangible materialities, and consequently not to be construed from them. This ought to be borne in mind by those who complain, perchance, that the theory of light here given (I mean *theory* in the sense of philosophical deduction, not of arbitrary hypothesis) is vaporous. Those who presume to account for light by resolving it into corporalities literally make the theory of light “ clear as mud.” *

* Involuntarily we are reminded of the words of Goethe : —

“ Es sagt ein grosser Physikus :
 Nil luce obscurius !
 Ja wohl, für Obscuranten ! ”

“ Says a great physicus :
 Nil luce obscurius !
 Well, yes, for obscurants ! ”

By comparing the theories of Schelling, Oken, and Hegel, given in the second part, the reader will see, that, although all three proceed (as already Goethe had done before them in his "Farbenlehre," Theory of Colors), their determinations are different from those we have found. Oken makes light a polar process between the sun and the planets ; with him, polarity is an unexplained fundamental phenomenon, and nothing more. In Hegel's philosophy, nature is the external, real existence of the absolute idea, and the separate existence of its "momenta." The momentum of generality in existence is corporeal light, the sun ; that of individuality consists in the planets, the momentum of particularity being distributed into abstract *being pro se*, — the *lunar bodies*, — and abstract *being for others*, — the *cometary bodies*. — We have seen that the *solar systems* are the first cosmic individuality, not the particular isolated planets. I consider this as the radical defect, or rather inconsistency, of Hegel's philosophy ; the Universal as such cannot, as Hegel makes it, be at the same time the concrete Material (sun). The same error occurs in his philosophy of jurisprudence, where the *king* is the incorporated general or universal ideal corresponding to the sun, the people the representatives of individuality, &c. ; whereas in truth the Universal is nothing but the *pronounced* unity of the individuals (just as light is the pronounced unity of the cosmic individualities), which inevitably leads to republicanism.* Hegel deduces monarchy, and in particular the Prussian monarchy, as that form of government which is "adequate to the idea," a circumstance that has made his system eminently unpopular ; unfortunately, his truth has been rejected with his errors ; the source of them, which to my knowledge no one has hitherto pointed out, lies here.

* The same mistake is met with in Hegel's philosophy of religion.

With Hegel's, Schelling's, and Goethe's polemics against the Newtonian theory all will now readily concur, as likewise with the repudiation of the undulatory theory in the sense of a dancing of particles, which Michelet, in his edition of Hegel's "*Naturphilosophie*," chooses to call the "regiment of cavalry," on the ground, I suppose, of an imaginary analogy of those vibrating particles to cavalry evolutions, although all the adherents of the wave theory expressly reject any *advance* of the moving particles. The Hegelians flout the wave theory altogether. But Hegel's theories of single and double refraction, &c. (contained in the Second Part), account neither for the deviation nor for the distortion of the image or the spectrum, *when the eye is supposed to be stationed in or beyond the denser refracting medium*, not to speak of the circumstance, that the refracting powers are by no means strictly proportional to the densities, and that the *mutual dependencies of refraction and reflection* (for instance, the most refrangible "rays," as they are called, are the most reflexible), *the limit of refraction*, &c., cannot be deduced from Hegel's theory at all.

PHASES AND PROCESSES IN THE SPHERE OF COSMIC INDIVIDUALITY.

I. *States of Consistency.*

§ 42. WE are next to examine in what the differences and the unity of the individual masses consist, and how far the differences extend according to the determinations given. The individual terms are different against each other ; their masses gravitate respectively towards their individual centre and endeavour to reduce themselves to separate unities. They thus *cohere* in them-

selves. But (First Principles, § 36) these individual masses are engaged in an incessant formative struggle, in a conflict between universality and individuality ; and this, then, gives us (since, according to the principles established and just now quoted, all the phases of this process must be present) *three stages or states of individual consistency* : one, where the planetary cohesion is exhibited in its ascendancy, — the *solid* state ; another, where the annulment of this, the universalizing tendency, or, as it is called in Physics, the *repulsion*, prevails, — the *gaseous* state ; and a third, where the two equilibrate, — the *fluid* state. Neither of these three states can be absolute, for they are all expressions of a process. The gaseous state is the fundamental, the typic state in the first phase of cosmic individuality, — the state in which individual, planetary matter is yet devoid of internal difference, and where the distinction is solely that of the great masses against each other.

II. *Specific Gravity.*

§ 43. GRAVITY is the intensating tendency of the Extended. The greater or less degree to which this intensation has taken place determines the *specific gravity*. Specific gravity is the relation of mass to volume ; but since there is no question yet of internal isolations, and consequently of atoms, specific gravity does not consist in an aggregation of a greater or smaller number of particular atoms, alternating with a greater or less amount and extent of interstitial, void pores. Both absolute atoms and absolute pores are a base and empirically unwarranted fiction.

I speak here only of the specific gravity of purely planetary masses ; further individualizations will introduce

more particular intensations ; in all cases, however, specific gravity will be the degree to which the Extended has been intensated, the thoroughly Multiple subjected to individual centralization, to the sway of the ideally One over the materially Many.

Specific gravity is not to be confounded with *cohesion* ; the latter is the *force* * with which the unity of the Multiple maintains itself against the absolutely extended Universal ; the former simply the *relation* between the intensive unity and this extended Universal. In cohesion we abstract from the relation already established, and refer only to the energy with which the Individual asserts itself as such ; in specific gravity we abstract from this energy and look only to the relation. These are the general ideas of cohesion and specific gravity ; every new individualizing action brings with it a further modification of both.* *The self-restoration of the Individual in its antagonism with the universally Extended is ELASTICITY.*

III. Sound.

§ 44. WE may now define cohesion to be *the energy of the Individual*. This energy *manifesting itself*, in its struggle therefore with its annihilation, is *sound*. Sound is the conflict between the energy of the material Universal and the energy of the Individual, the vibrating alternation between them. The more special differences of sound — tone, pitch, &c. — depend upon the particular modifications of cohesion in ulterior individualizations.

In sound the power of individual formation becomes

* *Force*, we recollect, is simply the idea of universality, individuality, &c., as *active* in the Material.

phenomenal, by its contest with the power of universal life. It has on that account been well said by Steffens, Oken, Hegel, &c., that sound is the plaintive voice of the idea in its bondage of the Material ; but it is equally the exultation of the idea in its victorious mastery over this Material. In sound universal and individual life are blended ; sound is the thrill of momentary fusion with the Universe. The process of creation, as it were, the birth of every thing from the common source, and the expiration of existences in the same all-pervading breath, here become phenomenal. In sound we have the obvious *existence* of a unity in a duality, — the absolute peace in the absolute conflict, and an absolute conflict in an absolute peace. Actuality and annihilation, appearance and evanescence, occur in one ; sound is the truly phenomenal time. Sound is a revelation of the Individual as well as of the Universal, and of their forms and laws ; hence the undefinable and yet definite power of music ; hence the evidence of notes and voices respecting the nature of individual existences.

The absurd notion of “material sound” has long since been banished from Physics, and the true theory been substituted ; my business here is not with details, which can be found in any good treatise on Acoustics.

IV. *Heat.*

§ 45. JUST as in sound the combat between the energy of the Individual and the energy of the thoroughly extended Material is manifested, so *heat* manifests the war between the *abstract subsistence* of the former against that of the latter. The fundamental phenomenon of heat is its expansive efficacy. — Of course, then, sound and heat are intimately connected ;

that sound produces heat is a familiar fact. *Temperature* is the manifest struggle of abstractly extended subsistence against individual concentration ; hence the temperature of bodies is increased by compression.

It follows from these data, *that heat is vibratory in its nature ; THERE IS NO CALORIC MATTER*. This theory is neither unprecedented nor unwarranted by experiment ; I will state, as briefly as I can, the empirical verifications.

1. There is a decided analogy between the laws of heat and those of sound, the vibratory nature of which is acknowledged. Sound is excited by concussion, friction, &c., — so is heat ; sound propagates itself radially, — so does heat ; the modifications undergone by sound and heat in that propagation are similar under similar circumstances.

2. Heat is analogous to light in its reflection, refraction, so-called absorption, transmission, and *polarization*. Before proceeding, I must warn the reader against identifying heat with light. Light, in the theory I have deduced, is the manifestation of the abstract ether at the first planetary concretions, and its vibration arises from the origination of motion at that epoch ; heat is the process of return from more concrete consistences to the purely planetary state. That heat must thus ultimately become the transition into light, as it does in combustion, is evident from this. It is said that heat accompanies light, which is not true ; only when light energizes in concrete matter and solicits to individualization, as we shall hereafter see, then the activity antagonistical to this, and therefore *heat* is also conjured up.

Certain bodies by preference transmit certain rays (as they are termed) of heat, a property which Melloni terms *diathermansis*, — just as certain bodies transmit only certain rays of light. Rock-salt is the sole body which transmits all the caloric rays (I retain the old ter-

minology for the sake of convenience, with the reservation, that all materialistic associations be kept at a distance), and corresponds therefore to transparent bodies; lampblack absorbs them all, just as the perfectly opaque body absorbs light. — *Heat from different sources is unequally absorbed* (see Melloni's table); thus, alum transmits part of the heat from an incandescent platinum spiral, but none from a blackened sheet of copper heated to 400° Fahr. — The greater the thickness of a body, the greater also the absorption of heat to a certain degree; beyond that degree no further absorption takes place, though the thickness of the transmitting (diathermane) body be increased. Similarly, after heat has been subject to absorption in one body, it can be transmitted through a second one without being further subject to absorption, although, had the original heat been transmitted through the latter body, absorption would have taken place. — All these phenomena can be explained only by the theory of vibrations.

Heat is polarized. If about one hundred plates of mica in their natural position be presented to rays of heat, which have been made parallel by refraction through a lens of rock-salt, scarcely any rays will be transmitted, if the incidence be perpendicular; but transmission immediately occurs, when the incidence of the rays is oblique. — Heat which has passed through a plate of mica will be transmitted through a second one, if this be parallel to the first; if not, the quantity transmitted is diminished, and transmission ceases when the plates are at right angles to each other. If the reflected rays from such a plate under the angle of polarization be incident upon a second plate, the maximum of transmission occurs when the two planes of incidence are perpendicular, &c. Even circular polarization by double reflection can be effected in a rhombic prism of rock-salt, &c., &c.

3. The excitation of heat by friction, electricity, &c., where a change of internal arrangement, of consistency, is always involved, can be satisfactorily accounted for only by the vibratory nature of heat. How will those, who insist that a hot body emits, and therefore *loses*, particles of heat, account for the continued caloric radiation from a body submitted to friction, which, its unvarying capacity notwithstanding, *continues in the same state of incandescence*? The *capacity* for heat (in the old sense) was found to be the same in the turnings of a bored cannon in this state, as in the mass of the metal; *no decrease of "capacity" had taken place in the incandescent metal; temperature and capacity remained perfectly the same*, and yet heat was continually given out, though there was evidently no external source of "caloric matter" there. Every explanation depending upon the old hypothesis of caloric matter falls to the ground. And in general, the "capacity for heat" of a body submitted to friction not being diminished, how can the origin, the *absolute generation*, of sensible heat by the friction of two bodies be reconciled with the old current theory? No heat is lost, and yet heat is imparted. — I will not minutely advert to the inconsistency of the caloric theory, which in the teeth of the alleged materiality of its particles admitted and taught the fact, that a body *colder* (i. e. possessed of less caloric matter) than the surrounding medium nevertheless constantly radiated heat! the same as if the wind blew from a rarer atmospheric column into a denser one!

There is no need whatever of the old fictitious categories of *latent* and *sensible* heat, *capacity* for heat, &c., &c. In the vibratory theory, temperature will be the *amplitude* of the vibrations, the quantity of vibratory motion being also the quantity of heat. In consequence, great *capacity* for heat will correspond to great quantity

of motion with small amplitude of vibration ; if now the amplitude of vibration be diminished, the quantity of motion remaining the same, heat becomes *latent* ; if conversely *pari quantitate* the amplitude increase, heat becomes *sensible*.

THE PROGRESS OF INDIVIDUALIZATION. SPECIAL INDIVIDUALITY.

I. *The Tendency to Special Individualization. Chemical Antithesis.*

§ 46. THE first determination of the forms of individual development gives rise to the illusory appearance of a fixed permanence of these forms with their relations ; we must never forget, however, that their life and their existence are processes, and that in consequence they are nowise stationary. All the relations are active, processual, and the terms of the development not only *stand opposed to*, but likewise *energize in*, each other, and thereby progress to higher developments.

I have observed before, that on each stage the Spiritual appeared as a higher ideal form, and therefore as an aspiration to a more perfect reality, the Ideal being nothing else than this aspiration ; that, figuratively speaking, it attained to a fuller self-recognition, which it proceeded to express the next moment. In light such a recognition of the unity of the cosmically antithetic masses has taken place. This unity, the representative of the ideally Spiritual, *appears as an extrinsic relation* between the cosmic masses ; now, as we recollect, the object and endeavour of the Spiritual is to identify itself completely in and with the Material. *Its representative on this stage then, light*, will now begin to state itself in the masses, thus tending to effect that identification. The energy of

light is the formative, individualizing principle in nature. Facts substantiating this are familiar. Light magnetizes ; light prompts crystallization ; light is an essential requisite for the development of plants and animals, &c., &c.

Now what are the properties of the mass upon which this solicitation to individual formation is expended ? This mass is as yet purely planetary, — modified only by planetary relations : first, by the activity of individual centralization, planetary gravity, and, next, by the mere external relation to light. The former will impress upon the mass the character of different phases, accordingly as the intensation under the influence of planetary attraction has been effected more or less perfectly ; thus there will in general be bodies determined in their form by this gravity alone, *amorphous* bodies, internally of great coherence, without isolation of particles, without brittleness, capable of extension therefore by whatever means and in whatever direction, &c., — *these properties belonging in the greatest degree to those bodies in which the mere planetary character is most perfectly developed. Since the pure planetary mass stands in formal, external relation to light, or, in other words, since light manifests itself AT the planetary mass, bodies bearing the EXCLUSIVE-
LY planetary character must exhibit this external luminar relation, whenever they are exposed at the planetary surface.* Are we acquainted with any series of bodies which incorporate the gradations of the first, and throughout exhibit the second quality ? The metals present themselves at once to every one's mind ; they are all (with the exception of potassium and sodium) distinguished for their considerable specific gravity, and in the higher metals the internal coherence (malleability, ductility, &c.), density (specific gravity), are eminently conspicuous. How the brittleness and sometimes partly crys-

talline form of other metals is to be accounted for is to be presently seen. *All the metals exhibit the mentioned relation to light* ; they *reflect light*, are endowed with the so-called metallic lustre, which is still the strictest criterion in chemistry for the discrimination between metallic and non-metallic bodies. I hope the reader sees, that reflection, the mere relation of *external form* to light, and great specific gravity *must* belong to metals, if they are the bearers of the purely planetary qualities. As to coherence, this has already been pointed out by Steffens ; but I know of no one who has before deduced the reflection of light from metallic surfaces in a logical manner. It would be interesting here to contrast with the metals, the hardest, most individual crystal, the diamond, which, instead of throwing back the light, concentrates it most strongly in itself. It is not the place here, however, to hunt up analogies and contrasts ; assuredly, however, there are higher and simpler principles concealed in these " mines " than are ordinarily dreamed of.

In other bodies, which, from their closer contiguity to the surface of the planet or other circumstances, were more immediately exposed to the individualizing action of light, these properties are less marked ; the individualizing influence has overpowered them more or less, whence their brittleness, their inferior lustre, &c. The characteristic record of individualizing action is mineralization ; but of that anon.

Such are the characters of the masses which are now to be further individualized. I shall not uselessly show again that this individualization must again consist, first, in a statement of antitheses, of dualities, and then in the statement of their unity ; the reader is aware, long since, that every individual form is a unity in the difference and contrast. Were now the planetary mass perfectly yielding to the individualizing breath of the Spiritual, we

should have a series of perfect dualities. Such, however, is not the case ; the planetary energy is active in different degrees in the various masses, keeping some in perfect subjection, and operating less powerfully in others. Every mass, then, will henceforth be swayed, or at least urged, by two activities : by the general planetary, and by the peculiar individual activity. This consequently produces us a series of bodies, in which the dualizing, individualizing tendency has taken effect in numerous varying degrees : the so-called *chemical elements*, in which there is one radically antithetical correspondence, which, however, remains imperfect, inasmuch as the cosmic planetary life is common to all the masses, and opposes itself to individual differentiation. Thus we find that gold, e. g., one of the most thorough bearers of planetary energy, stands in chemical opposition to scarcely any element, and combines with one only, chlorine ; whereas in other instances the new individual life has completely gained the mastery over the planetary sphere, and effected a very obvious differentiation, so that the planetary character is almost completely obliterated. — *The terms of this new individual antithesis necessarily again intensate themselves to separate, unital existence, and as such they constitute the so-called CHEMICAL ATOMS OR EQUIVALENTS.*

I am convinced that a philosophical classification of the metals can be made upon the foregoing principles only : by observing, namely, in what degree, on the one hand, each different metal bears the planetary character of gravity, cohesion, &c., and is *independent of crystalline form and individual shape* ; and in what degree, on the other hand, the individualizing chemical opposition has effaced this first character and assigned a particular rank in the scale of chemical affinities, — in a word, by ascertaining whether the predominant expression of the metal

is *planetary* or *specially individual* existence. The same, *mutatis mutandis*, obtains with regard to the other elementary bodies. Hitherto, in the ordinary books on Chemistry, the so-called properties have been enumerated without any order or connection ; their gravity has been stated without any reference to their specific heat, and both as independent again of their chemical affinities.* The same of malleability, ductility, color, &c. Even the reflecting empiric can have no doubt that these properties are essentially and intimately connected, and flow from each other as consequences, — that a chemical element is by no means a sheaf, as it were, of perfectly heterogeneous properties bound up together at hazard.

§ 47. The different chemical elements, then, are *generated* by the process of special individualization, and represent *one common radical chemical antithesis*. Their variety arises from the circumstance, that the masses, upon which this dually individualizing activity operated, were held in the bondage of planetary life, and had fixed themselves in gradatory concretions as the expressions of this life, so that they possessed unequal susceptibilities of the individualizing influence. Had the mass acted upon been a pure original, undifferentiated ether, not swayed by previous attractive forces, we should have had a strict antithesis, a rigorous duality again. *The pure dualizing activity, however, of course exists and immediately manifests itself as the obvious effort against all condensatory* (“planetarizing,” if I may be pardoned the barbarism) *or universalizing attempts, such as pressure, induced vibra-*

* An initial attempt to trace a connection between the chemical equivalents and specific heats of the elements has been made by Dulong ; his inquiries have been extended to compounds (metallic oxides, carbonates, sulphates, &c.) by Naumann and Avogadro.

tion, heat, congelation, &c., all of which would produce a cosmic retroversion of the body ; its manifestation is ELECTRICITY. We have here again the same pure phenomenon which is constantly exhibited in the planetary antithesis : a duality, whose unity at the same time appears at and between the terms as *light*, — *the electric spark*. I shall treat of electricity in its philosophical aspect hereafter ; we see, that on every stage, from the midst of every dissection, the identity shows itself at and between the different terms ; that the “ spirit ” looks at us everywhere as the unity in the difference. The electric light is once more a gaze of the Spiritual, once more a glance of anticipating self-consciousness from the eternally One.

II. *Voltaic Electricity (Galvanism).*

§ 48. THE pure chemical antithesis, therefore, exists only as disguised by general planetary influence, — imprisoned in the strongholds of gravity and terrestrial concentration. It is an imperfect and gradatory differentiation, appearing, nevertheless, as soon as two chemically different bodies are brought into relation (by contact) ; and if then the chemical contrast be sufficiently strong, the individualizing tension becomes manifest as the so-called *voltaic* (galvanic—dynamic) *electricity*. Now the reader recollects, that the process of the Spiritual consists of evolution and involution, — differentiation and re-identification. The polar tension appears ; the next moment would give us the identification of the terms, if this were possible. We would then have a new individual unity, — a third body, in which the higher identity would be realized. But if the bodies between which the tension existed be solid, for instance, metals, then

that identification cannot take place. Suppose now a third body, in the liquid form, where this obstacle does not exist, to be present ; abstracting first from the chemical tension between this and one (or both) of the solids (which is a case of common affinity, the same in its origin with the electric action), the differentiating action, which is alive by the contact with the solids, would at once act upon this, and cause it to "discede" * into a duality. The re-identification of the same would of course directly occur, were it not for the presence of the solids, say metals, which likewise stand opposed to the terms of the liquid respectively, and hence, if already previously one of them, for instance, stood in polar, chemical opposition to the liquid, *it solicits one of its terms more strongly to identification with it than these terms do each other.* It may now happen that there is little or no antithesis between the remaining term of the liquid and the other solid, owing to their *previous* homogeneity as terms (similar polarity) ; then no identification of these takes place, the term of the liquid is liberated, and the old antithesis between the solids is restored. In the simplest and most familiar system of voltaic action, with copper, zinc, and water, the polar tension exists at first already between the copper and zinc ; the zinc (to use the current terminology) is positive, and the copper negative. Now it is known that water can stand as a substitute for acids in combination with metaloxide bases ; with reference to metallic oxides it is therefore also negative (although in other cases, in combination with non-metallic "compounds," it is again positive). The water, then, under the influence of the tension between the copper and zinc, "discedes" into oxygen and hydro-

* I do not use the expression "*decompose itself*," because it is of mechanical import, and implies a theory which I do not admit.

gen, — the former negative, and the latter positive. Already at first the water stood opposed to the zinc as negative, and this opposition holds therefore, *a fortiori*, of its absolute negative term, oxygen ; the zinc and oxygen thus identify themselves, combine, *because the polar antithesis between them is greater than that between the oxygen and hydrogen, by the amount of the first tension between zinc and water.* The faint polar antithesis between copper and hydrogen does not suffice for a combination, and the hydrogen is liberated, — no identification takes place. That all chemical combination is really an identification, and not merely an apposition of particles, is unwittingly taught by all the chemists, when they say that a chemical compound presents both components in the smallest possible molecule.

§ 49. It has been attempted by the advocates of the chemical hypothesis in galvanic electricity to invalidate the excitation of electric tension by the mere contact of metals, &c. The *experimentum crucis* of the contact theory, however, is impregnable ; the reader knows that electric tension is decidedly exhibited, even when moisture (and all oxidizing causes generally), friction, &c., are precluded, — the tension, moreover, in Zamboni's, Behrens's, Biot's, Deluc's, Koemtz's, &c., dry piles is familiar. For details on this score consult " *Traité expérimental de l'Electricité et du Magnétisme*," par M. Becquerel, the " *Manual of Electricity and Magnetism*," by Lardner and Walker, &c. — The first tension is undoubtedly created by the mere contact ; the *active continuance*, however, and the resulting *galvanic* current, i. e. the propagatory polar decomposition and recomposition, is due to chemical action. The current can consist in nothing else than a serial succession of collapse and discession, of neutrality and opposition, of depolariza-

tion and repolarization. — Those who defend the chemical hypothesis *in its abstraction* attribute the origin of voltaic electricity to the action of affinity ; then affinity is identified with electrical opposition (which brings us, if not to the *form*, at least to the *sense*, of Grotthus's theory), and thus they revert to the contact theory on their own data, unless they establish a specific difference between galvanism and electricity.

Common (Static) Electricity.

§ 50. THE tendency to special individualization exists in all material bodies, and will appear as the reaction against universalization, whenever the energy of the latter is violently enhanced. Its manifestation is common electricity. Becquerel has experimentally proved that *mere* pressure evokes electricity ; in all cases it is elicited, wherever there is a return to the inferior phases of planetary concentration or cosmic diffusion. *Such cases are the pressure mentioned, friction, elementary decomposition, evaporation, a separation of parts, changes of temperature, &c.* Its evolution takes place on all bodies indiscriminately ; but wherever planetary life reigns most powerfully, as in metals, this immediately recovers the ascendancy over the electrical tension and destroys it. Hence metals are called non-electrics. (The same with respect to water, &c., which, however, as soon as it becomes crystalline, individual, changes into an electric ; every one is aware that *ice* below a certain temperature may be substituted for glass in the electric machine.) If, on the contrary, individualization has actually occurred, as in the instance of crystalline bodies or the remains of organic life, which individualization is but a record of chemical and therefore electrical activity, the

tendency will at once establish itself as the attraction and repulsion of the "poles" (terms) of the electric individual antithesis, until the neutralization has again taken place. There is scarcely any necessity for pointing out, after all that has been already said, why "poles of the same name" (similar terms) repel, and poles of contrary names attract, each other. Electricity is nothing but the energy of the Spiritual in its progress of individualization ; and we know that this is essentially a discession — repulsion — of the Identical, and an identification — neutralization — of the Different.

Crystallization and Magnetism.

§ 51. CRYSTALLINE forms are the record of electrical individualizing action in its conflict with the planetary elements. The electrical phenomena in crystals upon the application of heat, &c., as in tourmaline, disthene, plates of mica (which exhibit a distinct electric light when they are severed), and various other bodies, are enumerated in every good treatise on Electricity. In metals the force of terrestrial gravity, of planetary concretion, holds its full sway, wards off the influences of individualizing efforts ; hence metals are generally without crystallization. We come, however, in reasoning thus, to a point where the individualizing, polarizing tendency is just on the verge of gaining the mastery over the strength of planetary life, — where the antithetical tension is in the moment of effecting the diremption of the metallic mass without actually achieving it. Then the metal becomes *magnetic* ; it exhibits polar antithesis, which, as not becoming effective, does not actually produce a discession and change of the particles, but exists as punctual and fixed along the whole mass. Iron, co-

balt, nickel, chrome, and manganese are the only bodies naturally possessing magnetism ; but it is a bold conjecture of some chemists, that at certain temperatures and under certain circumstances *all* metals can become magnetic.

That electricity and magnetism are identical is known since the discovery of Oerstedt, and the connection of the two forms the science of Electro-Magnetism. To see the bearings of the one upon the other, we must confine ourselves to the fundamental phenomenon, which is simply this : *that the direction of magnetic polarity is at right angles to the directive progress of a galvanic current.* Let us see whether this logically follows from the data of our previous deductions. — In the annexed figure



the small circles may represent chemical molecules (to use a term sanctioned by long usage), decomposed and recomposed by the passing galvanic current. These molecules in the moment of decomposition repel each other every time in the direction of the arrows ; and *this is the repulsion, which in magnetism, where the diremption cannot take effect, becomes a fixed, permanent tendency.* In the real chemical action, in the galvanic current therefore, decomposition actually occurs (even in the conducting metals, though an immediate reduction there takes place by the planetary energy) ; and as the antithesis is relative, combination with the following particle occurs, &c., — *so that the progress of the galvanic action is in the direction a b, — at right angles to the direction of polar tension.* I have nothing to do here with the further application of this principle ; it is easily seen that the construction of electro-

magnets (under the influence of solenoidal or helical currents, &c.) depends upon this.

§ 52. If I have been understood, it is apparent now that the same chemical antithesis lies at bottom of all the differences of the chemical elements ; had the Material formed itself in sole obedience to this antithetical power, we should have had numberless concrete individualities, but without qualitative distinctions. But a previous energy was alive in the mass ; the actual opposition arising became gradatory, according to the degrees of effectual ascendancies over that energy. The *ideal form* of the antithesis is *electricity* ; its imperfect realizations in the resisting mass is the source of galvanism, of *elective affinity*, of the production of imperfectly neutral bodies, which are consequently at the same time concrete unities and abstract terms (bases, acids, &c.), &c., &c. — It is false, and certainly cannot be proved by experiment, that the chemical elements existed previous to electric action and to the individualizing process ; this hypothesis again holds forth the radical error of assuming concrete, quiescent existences, and then *superinducing* movements, changes, and modifications. The logically preëxisting elements in special individualization were only the stages of planetary consistency ; *from these the CHEMICAL elements were and are born in virtue of the individualizing and therefore antithetical electric action*. It would be well for many of the atomistic and mechanical chemists to bear in mind what Bacon observes (Nov. Org., lib. II., Ax. 66) : — “ Dicendum porro est et de vitiosa materia contemplationum, præsertim in philosophia naturali. Inficitur autem intellectus humanus ex intuitu eorum, quæ in artibus mechanicis fiunt, in quibus corpora per compositiones aut separationes ut plurimum alterantur ; ut

cogitet, simile quiddam etiam in natura rerum universali fieri. *Unde fluxit commentum illud elementorum, deque illorum concursu, ad constituenda corpora naturalia.*”

§ 53. We have now followed the Spiritual in its illuminating and animating course through the regions of its first immense shadow, the undifferentiated ether, — the barely extended Material, — and examined the general relations and movements of the individual forms emerging from it. We have seen that all concrete existences are radical dualities, starting into reality at the breath of the one great principle of life, which invariably flashes up in their midst as a luminar presence. On the part of the Spiritual itself we have had constant aspiration to distinct reality, incessant thirst after itself, unwearied self-position ; on the part of its exterior expression, the Material, a perennial strife for its truth, which is not to be reached in its own domains, — therefore for its self-spiritualization. The Material endeavours in vain to seize upon its principle of existence, — hence it gravitates towards an ideal centre ; it tries to assert its concrete unity, — thus it coheres ; it tends to lasting formalization, — and is forced from combination to combination, from polarity to polarity. In no instance does the Material attain to permanence and enduring qualitative definition. The inborn contradiction and destitution of an independent character of the Material is perhaps nowhere more clearly brought to view than in the last category we have examined, — chemical action. Scientific treatises offer an enumeration of the alleged properties of matter, — as if they could be exhausted ! Every new combination destroys the previous peculiarities ; specific gravity, color, chemical relations, &c., all vary. To enumerate the properties of a chemical element, for instance, it would be necessary

to bring it into relation with all other elements and their compounds, to scrutinize and record all the chameleontic phases it there undergoes, — which would yield a system of permutations absolutely countless. The physical qualities of matter are not susceptible of determination ; the craving of matter to define itself is without bounds, for *matter is only by its relativity*. The quantitative and qualitative existence of matter, even when considered without any higher views, is an uninterrupted flight from itself, a never-terminating whirl of evanescence. In the endeavour to seize upon itself in its real import, to grasp itself in its substantiality, matter becomes thorough and endless transformation. *It finds its being in its annihilation, its solidity in its solution*. Matter is despair of itself without rest or relief. All the so-called real existences are but the afflicting regret for the loss and the painful longing for the recovery of their true self. They are nothing more than a wistful gaze at the past, and an anxious glance at the future, without a recognition of their present actuality ; they are only the shadow of a contrast.

Those who descant, then, upon the “ real nature ” of matter, and upon the impracticability for the mind to ascertain that real nature, on account of the utter heterogeneousness of the Material and Spiritual, do not reflect that this real nature, *absolute objectivity*, is only the unceasing resolution of the Material into absolute movement, into the Spiritual. With our data it would be an easy task to make it evident, that matter, in this very search for its own reality, forced itself into a constant process of relationship with all external materialities, into *organic life*. As Hegel has written a “ phenomenology of the mind,” so a phenomenology of material nature might be written, evidencing most palpably, that, guided by matter alone, such as it *appears*, we are

everywhere brought to the Immaterial as its ultimum. The step from *inorganic* to *organic* nature might in this manner be made by our merely viewing matter in its yearning after its own complete existence, which lies only in its unlimited reciprocation with its counter-existences, so that matter, in order to be itself, must become the reflex of all things without, incorporate itself as the representative of their influence, and effect the reciprocation by constantly assimilating them, — in other words, *organize* itself. But, as I have at first observed, all progress is of the Spiritual and to be comprehended from its nature ; let us see, then, whether the emergence of organic, living forms is contained in the idea of the Spiritual.

ORGANIC LIFE.

§ 54. THE spiritual, substantial unity of the Universe is the internally Living, internally Active, internally Moving ; from this idea all the stages in the progress of its identification must be deducible. — It cannot realize itself but in individual acts. A substantial activity can be conceived only as a series of continued, yet distinct, internally coherent and yet separate individual acts ; and these acts we cannot realize without an inevitable duality. The whole philosophy of nature is contained in these principles : —

1. The Spiritual, the absolute activity, the absolute movement, cannot subsist and be without identifying itself in individual acts.*

* These acts are, as every one sees, indefinitely several ; — we have several solar systems, several special antitheses on the planet, &c.

2. The individual acts cannot subsist without giving rise to an exterior duality and establishing their unity therein.

3. *The individual acts are inconceivable and cannot be, without their ABSOLUTE COHERENCE WITH, and therefore IMMANENT AND ACTIVE RELATION TO, the whole serial and nevertheless unital activity.*

We have descended with the Spiritual to its statement of particular acts, and the radical duality has invariably presented itself. But from the last adduced principle it follows that the act as *isolated* is nothing ; that, in order to its full and complete identification, it must,

a.) *establish its relation and connection with other acts, and through them with the total activity, and,*

b.) *return from these relations into itself, maintain itself in them as an individuality, and thus attain to its identical existence.*

Accordingly we have two great spheres : one, in which the individual unit effuses itself into the totality of life, radiates forth into the Universe, and forms, as it were, an organic bridge between the Individual and Universal, — *vegetable life* ; another, in which the individual likewise enters into relation to universal existence, shapes out its bearings to the totality of life and holds reciprocal communion with it, *but in order to maintain itself against the same AS an individual*, — not as a primary isolated unity, but as a unity involving this reflection from universality, — involving the double negation, first, of its isolated unital being, since it immanently relates to the Universal and therefore contains it, and, secondly, the negation of this Universal again, for the purpose of its own assertion, — *animal life*. — The *plant* is thus a radiation into infinitude, *by which the act states itself in the activity* ; the animal is the reflection from that infinitude into itself,

so that from abstract it becomes concrete individuality, from punctual identity a differentiated unity. The organization of the plant symbolizes the logical dependence of the act upon the activity, of the *instant* upon the *movement*; the animal furthermore embodies the proof of the existential impossibility of the activity without its realization in the act. The plant is a constant negation of its individual self, and the statement of the Universe in and by means of that negation, — *a constant removal from its germinal unit*; the animal is in addition to this the second negation of the Universe for the maintenance of its exclusive identity. *The plant is a mere vacant gaze into existence without; the animal a look into itself by reflection from external existence.* The plant exists by the mediation of the Exterior, and *for the Exterior*; the animal likewise exists by exterior mediation, but *for itself*. The plant leans forward and sustains itself AT the materialized spirit of creation; the animal sustains *itself* in universal existence. The life of the plant proceeds merely from the exteriorating tendency; that of the animal at the same time from the tendency of introversion, *the simultaneous action of evolution and involution, and is therefore subjective life.* *The developed plant is but the bond of coherence between one term of the creative movement and the whole movement itself; the animal is their union, and the existence of the one in and through the other.* Figuratively speaking, we might call plants the obelisks reared to nature's universal spirit, whereas animals are its inhabited temples.

Vegetable Life.

§ 55. VEGETABLE life is the expressed dependence of the Individual upon the Universal; the continued negation

of the unit by the terrestrial and sidereal powers, which materialize themselves in this negation, *but thereby constantly refer to the unit*. The result then is the apparent individual organization, the living plant. It has become usual to predicate life of any continued process of materialization ; in this sense the plant lives, although the very definition of the plant imports the non-maintenance of the individual unity *against* universality. There is mediation here, and therefore process, because there is reaction, conflict, realization of the Universal by the negation of the abstractly Individual ; but there is nothing further. Vegetation is but the espousal of cosmic activity and the isolated act ; the latter in itself is helpless, and compelled by this craving to bend forward into the ocean of general existence, in quest of an *internal* support. — Our task here is now to deduce the general characteristics of vegetable life from this primary determination of its idea.

§ 56. 1. Since vegetable existence is simply a mediation between universal and individual life through their material representatives, it follows that the organization of the plant can take place only when actuated by the energetic influences of the former. Vegetation must then be completely dependent upon the general agencies of heat, light, &c. ; hence its periodical appearance in conformity with the seasons, &c.

2. Since the growth of the plant consists in nothing more *than a continued negation of the isolated individual*, in the material statement of the agencies of universal life *with reference to the unit*, the organization of the plant is not swayed by an immanent pervading idea, which makes the parts *really* organs, — mere means for *its* realization. In their first formation these “organs” are dependent upon the unit ; but the formation

once accomplished, they are independent of it, and serve as media for the continuance of the action of the Universal only. They may therefore be disjoined and maintain a separate existence, provided the conditions be such that a concurrence of the previous elementary agencies is still possible. The indifference of the parts, their easy transition into each other, the conversion of a member into a different one, with an exchange of functions; &c., refer to the same principle.

3. Since the plant is perfectly impotent without external solicitation, there is no repeated inner individual metamorphosis of the elements ; the growth consists in a constant accrement, in which the elements are indeed changed, because their position in the plant involves a negation, but without being subject to individual secretion, renewal, &c.

§ 57. The plant is the result of an immanation of the universal elements into a unit. They gradually realize and resume themselves there, and become concrete in concurring in the Individual. The greater or less universality of this concurrence and the stronger or more feeble energy of the elements produce a variety of developments, the proper classification of which can exhibit nothing but phases in the realization of the one fundamental idea of all vegetation. Progressively all the general agencies of nature embody themselves in the plant, and shape out the different "organs" as their representatives. They develop themselves there in miniature existence up to their ideal unity, whose highest representative in the sphere of the Material is *light*. In the last "organ" of the plant, then, the *inflorescence*, the elements resume themselves in their unity and ideality. But the reproduction of this elementary ideality takes place in the vegetable sphere ; *the resumption is*

a resumption of the elements as stated, represented IN THE PLANT, and the ideality resulting can be no other than the ideality of the plant, — the vegetable germ. The last stage, therefore, in the life of the plant is the evolution of a luminar organ, and the re-involution of the elements to their primitive unity, by means of it, such as the elements are represented in the plant.

§ 58. There is no doubt, even on the strength of empirical data, that plants have originated, and still originate, by *generatio æquivoca*, although it is not to be thought that a “happy juncture” of the brute Material without spiritual aspiration could alone produce vegetation or life. Again, there is no doubt, that a metamorphosis of plants, the conversion of one species into another under a variation of circumstances, transplantation into different climes, &c., occurs; though from the last paragraph it is evident, that the elements, in developing themselves “microcosmically” by the relation to and statement in the ideal individuality of the plant, *must reduce themselves to germinal unity under the restriction of the same individuality*. Figuratively speaking, in every plant the word of creation is written in a language to which the Ideal of the plant, the germ, is the key. In the first instance, upon origination by *generatio æquivoca*, the determination of the plant depended upon the media in which the evolving tendency of the Individual manifested itself, and upon the cosmical influences presiding over the evolution.

§ 59. The production of its own germ by the plant has been termed a sexual process; but it is not really such. It will become evident to us hereafter, that the sexual process of animals is the complementary union of two individualities; in the vegetable sphere the uni-

versal elements simply develop themselves within the limits assigned by the ideality of the plants, and necessarily progress also to their unity. This occurs in the inflorescence, which inevitably exhibits the pervading duality of the Individual (pistils and anthers); but the germ is produced merely because the elements mirror themselves in the plant in their full historical existence, and consequently also in their luminar ideality. The inflorescence is the organ of light, the germ its child. The flower of the plant is literally the eye which it lifts heavenward. And all the transports of existence which beam from the human eye, all the ecstasies of joy conveyed by its glance, are legibly portrayed in the variegated hues which the plant seems to breathe from its bosom. But the plant blooms only at the moment of its death, — it does not awaken until the hour of its expiration; for its station in the scale of beings is that of transition, its life the evanescence of the Individual in the Universal.

Animal Life.

§ 60. THE progress of vegetable organization has been included in the general category of life on the ground of its involving a mediation between the Universal and Spiritual. The mediation there spoken of, however, consists in nothing more than a constant negation of the Individual by the assertion of the Universal, *which thereby assumes the form of the Individual*, since it asserts, reproduces itself with *reference* to the Individual, though this reference be only a negation. We come now to the proper mediation between the Universal and Individual, depending indeed, first, upon the annulment of the latter as isolated, and therefore

upon the craving for the former, but, secondly, also upon the negation of the Universal, which now becomes only the *medium in* and *through* which the Individual realizes itself, — to *animal life*. The definition has been abundantly given ; I will simply resume the general principles.

1. Animal life is not only the *communion* of the different material representatives of the Universal, of the One and the Many. The Individual denies its immediate being and craves the Universal, in order to exist *as* the Universal by the negation of its (the Universal's) immediate multiplicity, by the reduction of the Universal therefore to itself, to individual unity. The animal demands the existences without, because it demands its *own* existence. Its life is a process of evolution and involution at the same time. To use a mechanical expression: it is stimulated by two forces, one the expression of the truth that the Individual is nothing without the Universal, and the other of the truth that the Universal is nothing without the Individual, — the activity nothing without the act. Animal existence is consequently the perfect interpenetration of the Individual and Universal, and animal life the perennial antagonism between the vitality of the latter and the concentrating energy of the former. The animal is the Universe, not merely reflected from, or weaving its image in, the One ; it is universal life thrilling and breathing in concrete unity, — cosmos borne in a microcosm.

2. The process of animal life consists in a perennial metamorphosis of the Material, because it consists in the perpetual antagonism of two powers which sway that Material, — because it depends upon the twofold annulment of the Individual and of the Universal. For the same reason, animal existence is,

3. A periodical alternation between cosmic and individual life ; — now merged in the common ocean of universality, and cradled on the billows that are heaved by the commotion of the all-pervading spiritual atmosphere, sleeping on the bosom of creation, — and again standing in the inimical attitude of the distinct unit in opposition to its environment.

4. All parts of the animal organization originate in virtue of the same action, and are necessarily a reproduction of the same fundamental type, — each one, therefore, conformable to the whole. *A symbol of animal organization might be found in the curve.* The curve can be considered as an infinite number of rectilinear, tangential tendencies, — as a line which constantly proceeds to a straight direction, and just as constantly is introverted ; in the same manner the assimilated material constantly establishes itself in definite, inorganic, “ crystalline ” subsistence, and is just as constantly destroyed. Every part of the curve, however small, defines the whole curve, — so every organ delineates the whole animal. The curve is an incessantly varying determination of the line, — the animal organism is an incessantly varying determination of the Material ; the curve an unwearied directive transformation, — the organism a ceaseless transformation of matter.

§ 61. The cause of the metamorphosis of matter in the animal is also that of free motion. The plant opposes no force to that of the Universal, and is hence determined by it and by its ideal categories, — *space* and *time* ; but the animal is the complete negation of the Universal ; it produces, as it were, its time and space out of itself. It is more than a miniature universe : a miniature universal *life*, exhibiting itself as involution and evolution as well as cosmic vitality.

§ 62. The individual unity pervades its material multiplicity, commands it, and, conversely, the material multiplicity compenetrates in the individual unity. This unity is, then, the *soul* of the material organization, which exists in virtue of the perfect immanence of the former. The Multiple is in the unit and the unit in the Multiple, for animal existence is the identity of the two. *The individual soul is omnipresent in its organism*, linking its particularities in a common bond, or rather, reducing them to One. The parts are thus spiritualized; they not only relate to the individual One, but they *are* One. All the affections of the parts, therefore, are affections of the unit; they *compenetrate* in the unit. This compenetration of the Multiple in individual unity we call *sensibility*.

Plants are destitute of sensibility, because the individuality of the plant is not vitally present in its organization, — because it is nothing more than a passive unit, subject to the continuous negation of the external powers.

§ 63. But with the same strictness with which the Multiple relates to the individual unit, the unit also relates to the Multiple. The Individual appropriates and subjects the outward material, and identifies it in itself, — regenerates its unity therein; but on that very account it craves the Material for the purpose of maintaining, of regenerating itself. This craving is *instinct*. The Individual relates to itself *through* the medium, and therefore also directly relates *to* the medium; it is ultimately its own object and purpose, its own complement, but, being such, it must complete itself in a sphere beyond, which faces it as its *immediate* object. So long, therefore, as the Individual has not as yet attained its full reality, its perfect identity with the Universal, it is driven towards it by its own nature, impelled by *instinct*.

§ 64. The development of the animal and the progressive advance in its organization keep pace with the enlargement of the sphere in which its communion with cosmic life is effected. The essential, self-maintaining unity of the Individual prescribes thorough unity of organization, and a primitive type, which must constitute the basis of all particular formations ; but the variety of elements, from which the Individual is to regenerate its own and their unity, demands a variety of organs. If the Individual is to identify itself with the Universal, according to the established idea of animal existence, it must both *embody the materialization of the Universal, and live its life*. It must first *assimilate* the material around, and next develop within it organs representative of all the revelations of vital activity in the Universe, such as sound, electricity, light, &c. This, then, suggests a division of the animal organs into two great systems : *one, mediating the reception of the material elements of the Universe in the individual and their subjection to its unity ; the other, individually reproducing the life of the Universe in its various manifestations*. An analogon of the first system is vegetable existence, and this system has on that account been denominated by physiologists the *vegetative system*, including *nutrition, digestion, and respiration* ; the latter is peculiar to the animal, since it betokens independence, and therefore the positive assertion, the power of the Individual, of which plants are destitute ; — it has been called the *animal system*, embracing the *osseous, muscular, and nervous* formations, which subserve the functions of free motion and sensation.


§ 65. The dignity of the animal systems is superior to that of the vegetable systems ; the latter exhibit the animal organism as a *complement* of the universe, the former as its *representative*. In the animal systems the

Material is re-spiritualized, reduced to the dominion of an absolute spiritual unit. By means of them the *life* of the Universe stands opposed to itself, — in other words, becomes *subjective*. Each spiritual feature of that life embodies itself there in concrete unity, — in the *senses*. In a former part, I have endeavoured to show that all perception, &c., is nothing more than a recognition of the identity of the object with the perceiving subject, — that any cognition of the material world would be out of the question, were not this *spiritually* the same with the subject. The senses of hearing, sight, &c., are therefore in no respect the *instruments* for the apperception of sound, light, &c., but the *statements*, the *incorporations* of these ideal revelations of the creative spirit in concrete unity. *The senses are to the animal what the flower is to the plant.* Whoever considers them as *instruments* must regard sound, light, &c., as *material*; whereas, as we know, they are but ideal manifestations of universal life. These idealities regenerate themselves in the Individual, *develop themselves upwards to themselves, to their unity in the Individual.* The senses are, therefore, *born* from their functions. If we only bear in mind that *life absolutely precedes its manifestation*, we are inevitably brought to this result. *The senses, therefore, cannot absolutely deceive us; if they could, they and their objects must be heterogeneous*; they must have been formed, therefore, apart from these objects. The eye, for instance, must have been formed independently of light. But the eye is the offspring of light, — light which has organized itself in the Material, to which it stands in absolute relation.

§ 66. *The Spiritual, as it comes to itself in the organism, retraces the steps of its first effusion in the so-called inorganic sphere, so that the logical order in*

which its ideal manifestations occurred there is reversed : FOR THE SPIRITUAL REVERTS TO ITSELF BY MEANS OF INDIVIDUALIZATION. Thus the perfect evolution of the representative of the cosmical ether, the *nervous system*, with its peculiar sense, the *eye*, is the last and highest. And just as the absolutely mobile ether is the bearer of the Spiritual in its abstract ideality manifesting itself as light, so the nerves in their concrete centralization are the bearers of the Spiritual in its concrete unity, the individual mind. In short, all the phases of cosmic development recur in the animal organism, but individualized and in the inverse order ; and all the ideal manifestations of that development are exhibited in concrete and subjective form. Chemical action is appreciated by taste, — the pure ideal form of chemical antithesis, electricity, is represented by the sense of *smell*, the active force of cohesion, sound, by the sense of *hearing*, light by the sense of *sight*, &c.

The world organizes itself in the animal, and thus awakens to its own life, and, we may say, to its own existence. An abstract existence without subjectivity, an existence *in* and not *for* itself, would be equivalent to non-existence. And this gradual awakening to universal life can be pointed out in the gradations of the animal forms, as well as in the progressive development of each individual. On the lowest stage we behold mere assimilation, and organs only, which barely appropriate the immediately surrounding matter. Next we meet with appreciation of chemical action by taste ; — then the organ of smell becomes sensible of the more distant electrical relations of matter, and the sphere of the senses is enlarged beyond the immediate abode of the animal. Farther on in the animal system the ear embraces in its sympathy the formative struggle of concrete matter in the derangement of its cohesive energy, and listens to the



voice of creation in planetary existences, until, finally, the eye carries the individual into the regions of infinitude, and reveals the entire realm of creation in its forms as well as in its movements.

§ 67. The various animal forms are developments of the primitive animal type on successive stages ; a more complete reciprocation, or rather, identification with the Universe, occurring on each subsequent one, until all the phases of cosmic life and materialization are incorporated in the perfect animal, — man. In man all the powers and realities of the Universe are concentrated, all developments united, all forms associated. *Man is the bearer of all dignities in nature.* There is in nature no tone to which his being is not the response, no form of which he is not the type. The human organism is the whole “cosmos,” with its life infused into the Individual. Man’s organization embraces all ; he is the world’s self-surveying eye, the world’s self-hearing ear, the world’s self-enouncing voice. *Man is emphatically the absolute subject of all objectivity.* It follows from all the preceding investigations, *that the nature of any organism, and indeed of any existing material form, is understood, when it is known what are its essential objects ;* now all existences are the objects of man, and therefore he subjectively embraces them all.

Man has on that account been beautifully termed by Goethe *the plan of creation*, — by Novalis, the systematic index to nature, — by Oken, the complex of all organizations ; man is indeed the ideal type of all organisms, the goal to which all materialities aspire : *because the organization of man is the material expression of the full identity of the Spiritual with its realization.* Figuratively, in each of the inferior organisms, the Spiritual surveys itself under a different aspect ; in man, it views

itself in all its aspects at once. The Spiritual thinks the whole thought of creation once more, — and that thought is man. To his creation all the powers of nature are summoned, in his development all the words of life are quoted, in his form all the delineations of the Universe are symmetrized.

Man, then, is the full realization of the idea of animal life, and the lower forms are only advances towards it. One by one the features of the Universe are produced and incorporated in an individual form, until their perfect ideal expression smiles upon us from the human countenance ; one by one the breaths of the Universe are inspired into particular organizations, until the human organism respires the balm of the whole spiritual atmosphere.

§ 68. The more or less perfect approach to the human form must consequently determine the dignity of any animal in the general zoölogical scale, the whole of which will be, as it were, an anatomical exhibition of the human structure. In each animal class a particular sphere of universal life is preëminently favored in its development, giving that class a peculiar character in becoming its leading trait. For an attempt at a classification in this view, I can refer to the system of Oken, of which an outline is given in the Second Part ; I must content myself with merely pointing out the principles on which alone a proper classification can be founded. All forms in nature are but the record of a progressive life, and Natural History ought to become truly what its name imports, — a *history* of nature's life.

It belongs to special physiology to point out the transformation of the primitive type into the variety of distinct organs, although too little attention has hitherto been paid to the recurrence of this type and the dependence

of the different organs upon each other. Goethe, Oken, Carus, and others, have brought to light many analogies, shown the re-evolution of systems, &c. ; — Goethe's theory of the correspondence of the cranium to the vertebral forms, Oken's identification of them with the further extension into ribs, limbs, &c., are well known. The percurrence of all previous stages by every animal in its development follows from the very word "development," and from the identity of the animal type.

§ 69. So long as the Individual has not yet attained its complete identity with the Universal, it is yet partial, complementary, a means to a higher end, and therefore not free. Animals are imperfect in themselves ; they are consequently impelled by the imperfection of their nature to a fulfilment without, — they are the slaves of instinct. Their centre of gravity lies not in them, but *without* them. Also man is solicited by instinct ; but, as will be shown, it is the definition of his nature to command it.

Sexual Relation.

§ 70. THE identification of the Individual with the Universal occurs of course in the whole multiplicity of individuals. They are independent of each other in their life ; but their life is derived from the same source ; their coexistence is founded in the nature of the Spiritual, which cannot realize itself otherwise than in several individualities ; these are, therefore, necessarily related. The Individual first relates to the Universal, the act to the activity, and from this all organization proceeds ; but, next, individual relates likewise to individual. This relation, like every item in the definition of the Spiritual,

must express itself in their existence and development ; and this expression is the *sexual relation*. I have said before that the sexual process in the animal sphere is essentially different from the reproduction of the plant ; the latter is nothing more than the resumption of the elements in their ideal unity within the vegetable sphere, and *not* founded upon the individuality of the plant ; the sexual process of the animal depends upon an *acclusion of individuals*, not upon a re-individualization of particularities. The antithesis of the sexual organs in the plant exhibits the duality of the Particular in the realization of the Individual ; the sexual antithesis in the animal kingdom exhibits the generic conclusion of individual with individual. Of the higher mental coherence, the principle of spiritual reciprocity, of sociability, &c., I shall speak in discussing *the mind*.

§ 71. Before leaving the sphere of the organic world, I must say another word concerning the theory of adaptations, which has hitherto been almost the exclusive guide in the consideration of organic structures. In order to have our ideas clear, let us first see *what it is which constitutes any thing a means to an end*. To say a thing is essentially a means is to say that it is forced by its own nature to realize a certain end. *Ideally, as a law, a craving, the end is therefore implied in the means*. All those things, then, which are means, carry within them an unrealized ideality, — a destiny, to the fulfilment of which they are urged by their indwelling idea. In this sense, the animals, e. c., are means ; they are an incident in the great process of realization of the Spiritual, which is impelled by its own nature to its self-recovery, as we now know, in the human mind. This terminus, the object of the Spiritual, is ideally contained in its eternal definition ; — how else should it progress

towards it, as there is no other determining cause? — it therefore hovers, as it were, over all its medial determinations, impressing upon each its stamp, so that all the forms contain within them the aspiration towards this terminus. In other words: *ideally, potentiâ*, all the forms are organizations of the mind; but *actually* they are inadequate to it. They are consequently *infected* with the necessity of completing themselves; they relate, in virtue of their craving ideality, to other and higher organizations, and thus they are means. On the same account, they are not free; their relation to other objects is *necessary*, inevitable, for their peculiar being consists in it. They *are* only by their limitation. The finite being is nothing without the mutuality with, and subservience to, external objectivity. The animal *is* only in so far as it reciprocates. Even the physical man is not free, for the same reason, — yea, the undeveloped mind is not free; the mind is free only in so far as it is truly the achieved re-spiritualization of nature, as it is truly *mind*. For every physical action I want an object; for mental action on the highest stage I want no object. When I truly think, I am and produce nothing but myself; — I am my own Thou. Mind only can apostrophize itself. Perfect freedom is the perfect mind.

To understand the adaptation of means to ends, *within* any organism, we must recollect that each organism is a particular stage in the realization of the Spiritual, whose ideality is founded upon the preceding more imperfect reality; that each organism is founded therefore upon a particular *idea*. This idea realizes, organizes, itself by reciprocal implication with external existences. The parts or organs, then, have their unity in this idea, and through it refer to each other. *No other existence, but that resulting from this relation to the idea and consequent relation to each other, belongs to them; they are hence*

thoroughly ministrative to each other and to the whole. For, supposing that in some manner they were not so subservient ; *then in so far they enjoyed an independent existence*, an existence not founded upon organic relativity. But it has, on the contrary, been shown, *that they exist solely in virtue of organic relativity.* Again and again : we must never forget that the *function* logically precedes the existence of the *organ* ; that *life* logically preëxists to its *exterioration*.

The so-called *purposes*, then, are nothing more than the original ideas which preside over the organization ; the object or end is virtually contained in the subject. Every thing *is*, ideally, in its nature, that for which it was made. There is no *accident* in nature, and the world is constructed upon the plan of reason, because it *is* reason in every "atom" and fibre, — because absolute reason is its idea, its life, its true existence.

THE MIND.

§ 72. THE progress of organization is a development of the Universal, of its life and materiality, to individual subjectivity. The last grades of that development in the so-called animal system terminate in the production of the senses, — the subjective bearers of the ideal revelations of cosmic life. Now man is the bearer of all these revelations. In man universal life has become completely subjective ; in other words, in man the Spiritual is its own object, and this absolute identity in absolute opposition we call *mind*.

§ 73. The mind is the Spiritual regenerated as an ideal unity in and from its particular materialization.

Nature is the prefigured mind. Nature is the great enigma of which the mind is the solution, the complex of *tendencies* of which the mind is the realization, the dream of the Spiritual, of which the mind is the consciousness. The whole being of material nature is its continual self-combustion, from which the light of the mind evolves itself. If nature were a real existence, independent of the Spiritual, there could be question still of a connection between mind and matter, and that connection would remain an inexplicable mystery. But the mind is the *concrete* essence of matter, — the spiritual life of matter, which, in the mind, seizes upon itself, — the transfiguration of its confused, obscure *existence* into its luminar *being*. Nature *feels* herself, *hears* herself, *sees* herself, *comprehends* herself, in the mind ; the mind is the *true portrait* of nature, of which the particular features lie scattered as particular fragments in the various natural forms.

But how is it possible that the life of the Spiritual should animate all nature, and at the same time dwell in the individual subject, — yea, in *several* individual subjects ? This question is answered as soon as we have reflected that the principle of exclusion and difference obtains only in the sphere of the Material, and that identity in the different is the very being of the Spiritual. The same reflection affords us the clearest insight into the omnipresence of the mind in its organism. The organism is the *expressed idea* of the mind : the whole materiality, and hence the whole exclusion, the whole internal *difference*, of the body proceeds from the mediation of the Spiritual as an individual subject with itself as universal life and its material manifestation. The cause of the corporal particularity, of the material exclusion, is the self-differentiation of the Spiritual, — *thoroughly its own act ; hence it is also thoroughly present*

there. Now in the mind the Spiritual exists as an absolute unity, and upon this unity all differentiation and particularization are based ; the particularization consequently is absolutely related to this unity, contains the unity as its inherent nature, is *pervaded* by it. *There is material multiplicity for no other reason than because there is higher spiritual unity ; were it not for this unity, the categories of difference, &c., would not exist at all.*

§ 74. In the mind the Spiritual has re-involved itself to the One, and as such faces *itself*, its life in nature. The whole vitality, which is dispersed, so to speak, in the material world, dwells in the mind in concentrated intensity. The immediate (human) organization of the mind is the living history of its entire process, — of the entire spiritual evolution, therefore. This organization has accrued by the reciprocation of the individual spiritual subject with external materiality, *with the universal biography of the Spiritual*, and this organization *lives* in virtue of the reciprocating action. Every action of the organism is the mind's own action, or better, is virtually the Spiritual itself. The mind exists in an organic multiplicity simply because it is a process ; as a process, however, it is internally unital. — The animal is not as yet the completely reproduced Spiritual ; the Spiritual exists in it as a stage, but not fully identified with it. In other words : the whole process with all its dependencies and transitions is not resumed in the animal. The coherence of that process, the course and connection of spiritual evolutions, cannot therefore be appreciated by the animal : for the nature of the animal is incoherent and fragmentary. The human mind, on the contrary, is the whole process ; it is the perfectly evolved spiritual life, and every manifestation of it from without is hence immediately referred to the continuous, unital course of evolution, linked

with the chain of dependencies, inserted in the series of causalities. The mind is thus essentially the subject which *thinks* the world in itself in reciprocating with it. It is internally the order of the Universe, and therefore knows, understands, that order. Every external perception is an act of life in its organization, excited by the manifested life of the Universe. Now this organization lives *in virtue of*, or *in*, the mind ; and the life of the Universe is identical with, *wholly concentrated in*, the mind. The perceived manifestation of external life is isolated ; but in its mental recognition it also becomes an act of the living mind, which is the totality of that life, where isolation is precluded. The particular act, then, is immediately referred to, and taken in the connection of, that totality in its entire process, and is thus *comprehended*.* The conversion of perceptions into ideas is therefore simply the repetition, as it were, of an external, isolated act of life in the spiritual totality of the mind, so that it is appreciated in its reference to the whole spiritual process and being, — as it is ordinarily termed, *generalized*.

§ 75. When the human organization was considered as an ingenious mechanical contrivance, to which the mind afterwards acceded as the moving spring, it was scarcely strange that particular faculties should be awarded to particular organs, and the mind itself in this manner resolved into an aggregate of faculties. The union of the faculties among themselves and respectively with the material organs was then enigmatic beyond all solution, just as much as the action of this “curious” mechanism and the ideal assimilation of the external world by means of it. I hope that it is superfluous now to state again, that the whole theory of faculties, *taken either as composing*

* *Con-prehenders*.

the mind, or possessed by the mind independently of its being, is an absurdity. I shall hereafter speak of faculties too ; but each of them is the same identical mind in a different manifestation. — The old view, however, was scarcely extraordinary, while the assumption prevailed, that matter and mind had each been separately created, and thereupon been wedded to each other ; the particularities of matter then became absolute, for the existence of matter was absolute, and a particular activity, a particular force, had to be bestowed upon each organ. Let it be ever present to us, *that life is not the summation of materials and forces* ; that both, in the sense of materials and forces separately taken, are imaginary nonentities, — that they are born only from the source of all existences, eternal, spiritual life. Life and the activity of its self-revelation are the utterly *primum*, and not an *accident* to existing reality in the old sense. I may here recall to the attention of the reader, what I have previously remarked : that the so-called accidents and properties of things are always essential to them. For those properties are their relations to other things ; now *finite* things (and in *finite* things alone there is question of properties) exist only in virtue of their relation to other things ; there is in them no real existence independent of those relations. In that sense I have before said that the nature of any thing is to be learned from the nature of its essential objects, i. e. if I know with what external objects the thing is necessarily implicated and contrasted in its existence, I know what the object is. *A thing is nothing more nor less than the complex of its relations to other things.* These relations are, in a word, called its qualities ; *hence the whole existence of a thing is qualitative* ; it is not of primitive, mere quantitative being, to which qualities are subsequently imparted. Applying this to the mind : *the mind is the complex of all the relations in the Universe*, and this is its

being, its existence. The abstractum "mind" did not exist first, faculties being created for it for the purpose of its understanding the Universe ; *those faculties are the mind itself*. On this account the phrenological distribution of independent faculties to independent organs is puerile, as well as the theory, that certain faculties may be destroyed, the rest of the mind being left intact. Undoubtedly there are organs for the mind, — all media for reciprocation with the external world ; — undoubtedly the greater or less development of certain systems, and especially the nervous system, influences free and energetic mental action ; but to seat the *memory*, for instance, on the Pelion, and to enthrone *reason* on the Ossa of the noddle, and so on, is superlatively preposterous. This does not, of course, apply to the distinction of general compartments of the brain, where different organs obviously mediate different functions, so that a preponderance of the sexual relations is inferred, for example, from great development of the cerebellum, &c., — but to the fundamental division of the mind as such into individual agencies. It would yield extraordinary results, if the psychologies of the phrenological Coryphees were criticized on their own grounds and simply reduced to their own consequences ; nothing can be more monstrously and comically inconsistent.

So much for the general definition of the mind. Now as to its states and activities, its functions and manifestations. In the capacity of the active, processual identity with the Universal, I shall call it the *recreative mind* ; in the capacity of its independent productive action, the *procreative mind*.

THE RECREATIVE MIND.

§ 76. FROM our antecedent investigations, it is apparent that the mind is,

1. The immanent ideal unity of its material organism, of the body, and as such we may call it, accommodating ourselves to received terms, *the soul*.

2. The spiritual subject reciprocating with the manifold manifestations of spiritual life without, opposing itself to the objective world, and determining itself thereby, — *the conscious mind*.

3. The spiritual subject recognizing itself in its identity with the external spiritual totality, as the integral spiritual unity, — *the thinking mind*.

On all these stages the mind of course remains identical with itself; merely on the first it is in its ideal state, slumbering in immediate union with its body; on the second it awakens to external activity and differentiates itself into its different functions, *determines* itself, until on the third it resumes itself internally in its unity and totality as an independent spiritual world. — The mind is the absolute identity with the Spiritual, and therefore must also exhibit the logical stages of the Spiritual. We have before ascertained those stages to be the Universal or Ideal, the Particular, and the Individual; and to these three the above mental stages correspond. The ideal mind manifests, reveals itself in particular activities, and resumes itself thence in concrete unity. — I will now examine each of these stages separately.

I. *The Potential Mind, — the Soul.*


§ 77. THE soul is the pervading spiritual unity, the principle of absolute coherence in the corporeal differences

of the organism, — the subjective *One*, in which all the particular parts and their affections compenetrates. The soul being thus whelmed in its organism, slumbering in the body as a passive ideality, it is constantly affected by the variations of the organism. Now the organism shares in all the vicissitudes of cosmic life, and is subject to all the vital influences of the Universe ; * therefore, since the soul is here the mere ideal reflex of these organic sympathies, it respires, figuratively speaking, the breath of nature, and is fused with the ocean of universality. We know, moreover, from § 36, that all the stages of any evolution remain present, even after the further progress of the evolution ; these determinations of the soul will therefore still be felt, when the mind has unfolded itself to the conscious state, and influence it, inasmuch as the soul is, as it were, the basis of the conscious mind. It is here that we are to look for the explanations of sleep and waking, — of periodical moods, such as the vigorous and joyful mood in spring, — of rhabdomantism, so-called magnetic affections, &c. But of this hereafter. — We have learned that all the stages of spiritual development are actually and separately represented in the history of that development ; thus we found the record of the ideality of the Spiritual, e. g., in light. Looking now for a period in the human organism which exhibits this first ideal, passive state of the soul, we find at once the *fatal period* as the corresponding one ; there the soul is really in this pristine slumber, as the bare unconscious unit of the organism.

§ 78. In this passivity the soul simply receives the affections of the body in its ideal unity ; and this we call *feeling*, or *passive sensation*. The appreciation of this by

* "A breath thou art,
Servile to all the skyey influences." — Shakspeare.

consciousness is another thing, and must not be confounded with it. Here we have nothing further than the simple feeling of individuality. The constant reference of these affections to the more developed conscious mind makes it somewhat difficult properly to detach the manifestation of this first psychic state from the mental action in a more advanced period ; keeping this reference in view, however, the feelings of *terror*, the recoil of the soul into itself before a superior power, — of *shame*, the flight of the soul from its own presence, as it were, — and similar affections, belong to this sphere. That this is the case — that these affections belong to that state of the soul, where it is yet in the immediate embrace of the body — is substantiated by the fact, that they are instantly reproduced and symbolized by the body, *terror*, for instance, appearing as the retreat of the blood from the countenance, *shame* as effusion of the blood into it, &c. They are all phenomena of the unconscious mind, although they may be brought about by the mediation of consciousness, or subsequently interpreted by it. Of the latter category — actions, namely, of the unconscious soul mediated by consciousness — are weeping and laughter ; — the former the expression of the impotence of the psychic individual in the realization of its being, or the retirement of the soul into its abstract being, so that it in a measure releases the body from its dominion, which then proceeds, as it were, to solution (in tears) ; the latter the expressed energetic feeling of subjective individuality, which exhibits itself as a quickened reaction against the external world in a rapid expulsion of breath, in sudden motion, &c. Carus and Oken have sought to establish a parallelism of the different systems of the organism with these vague psychic affections, and even to determine the character of animals accordingly, by observing which of these systems predominates in the organization of each. When freed from



arbitrary fancies, this would undoubtedly throw much light upon the region of instinct, &c., in animals. Oken somewhere defines animals as foetal men ; and we have seen that the unconscious existence of the 'soul characterizes the life of the foetus. The only psychic life which can be predicated of animals is unquestionably this vague, immediate life of the soul, defined, however, as partial by the particular limits of the animal organism. I shall adduce the classification of Oken in its proper place ; the only thing which concerns me here is the distinct statement, *that in this phase of psychic existence the soul is determined by the peculiarities of the organization in which it dwells.*

§ 79. In so far as the soul is thus in immediate union with the body, and determined thereby, it is in a manner specified by it, and impressed with a peculiar character ; it is, as I have observed, the immediate reflex of the body. Now the body is the reflex of external reciprocations, determined by the media and circumstances in and under which its development takes place. Again : the soul is the foundation of all ulterior mental development, and its peculiarity therefore is *the predestined character of the individual mind*. Not that this induces specific differences in mind as such ; the more the mind unfolds itself to generality, becomes the *real* identity with the spirit of creation, the more also these peculiarities are obliterated. This difference pertains only to its first potentiality.— Here is the origin of the differences of race, of national type, of individual characteristics, &c.

I shall not venture upon a classification of the races, which demands a thorough and serious study of the various climates, the character of the vegetative and animal development resulting therefrom, — in short, of all the conditions of life and the dependencies of the organization upon it. The races may certainly be looked upon as

permanent forms representative of the different transformations which the *perfect type* undergoes before its completion. In this sense a distinguished writer has recently endeavoured to point out the analogies of the bodily conformation in an individual belonging to the Caucasian race, during the stages of his existence *in* and in the first period *after* birth, with the other races. The psychic peculiarities of the races are to be considered in this light. — The same principles apply, *mutatis mutandis*, to individuals, as defining innate character and temperament ; in each one there is a dominant tone, a characteristic mood, which rules and tinges all other activity : because the organism has developed itself principally under certain definite planetary and sidereal influences. There is more than a symbolic meaning, therefore, in the casting of nativities, in the reference of an individual's birth to some genial star, — to the “*sidera diversos hominum variantia casus*.”* — All these tones, then, collectively, representing the totality of cosmic and planetary influences, form the grand universal symphony composed and executed by the spirit of creation.

§ 80. The soul in its first, immediate capacity, then, is passive, merely receptive, or, as we might term it, *feminine*, — barely the ideal daguerreotype of the body and of its sympathetic variations. It is not objective, does not apprehend itself as its own object and purpose,—in a word, it is not *personal*. There are races, as well as individuals, where this state, which periodically recurs in every one, is the ruling state during life. The creative, productive action of nature, with its unconscious formative fermentation, thus thoroughly penetrates the soul, carries it on with its tides, and makes it the intimate, but unwilling, confidant

* “The stars above that govern our condition.”—Shakspeare.

of its aspirations. Subjects thus disposed are endowed with an apparently supernatural sympathy with cosmic processes ; they listen, figuratively speaking, with naked ear to the mystic formulæ by which the phenomena of nature are summoned. It is well known, how sensitive certain nations, intellectually of a very inferior grade of development, but reposing more immediately on nature's bosom, are with respect to meteorological changes, — how familiar they appear to be with "the spirit that dwelleth on the mountain," — how keen, to a degree astounding us, are all their immediate sensations. At this moment, while writing, I have occasion to observe a South American, in whose veins courses the blood of the Indian races, who, in spite of his collegiate training, still preserves the delicate organic sympathy with the respiratory action of the earth. — It is well known that among the Indians the influence of prophetesses, and persons "who hearken to the voice of the Great Spirit," is universal ; and we find the same among classes of people of the white race, whose intellectual activity is of the lowest order, as, e. c., in certain mountainous parts of southern Europe.* There is certainly in this much of superstitious illusion ; but, on the other hand, we have no right to cut the apparent mystery

* Anciently this was universal. The Germanic races always had females among them who were held in high respect for their prophetic inspirations ; I will simply allude to the well-known personages, Auri-nia and Velleda. — It is remarkable that the individuals endowed with the "mysterious gift" were invariably females. With females the psychic passivity is the leading character, in contradistinction to the bustling mental and physical activity of men. It is not the place here to inquire in how far the witches of the Middle Ages, who unquestionably often believed themselves to have been held in unholy bonds with "the dark spirit of nature," belonged to this category. Even at present we have several women on the Continent who seem to be in the "passive predicament," — among them a Jewess. About the Seeress of Prevorst, &c., noise enough has been made. — Swedenborgianism is, beyond doubt, a kindred phenomenon.

by an unceremonious denial. Persons of this description are *subjects, individualities*,—yet borne to a certain degree in the womb of mother earth; they immediately *feel* the planetary and astral relations, and are agitated by the current of the elements. Siderism, rhabdomantism, metalloscopy, hydros-copy, instances of all of which are too well authenticated to be doubted even by the most skeptic, are exemplifications of the same.

§ 81. *Animal magnetism*, which has been so much abused, both by its advocates and by its enemies, is a return of the soul to the same passivity, to its sleeping state. Plato once observed, that in sleep we are nearer to truth;* and he no doubt meant simply to say, that in sleep we are more immediately swayed by the creative actions and laws of the Universe. The operations resorted to in exciting the magnetic state may all be reduced to this, that a sort of paralysis is induced in the nerves of the *animal system* of the body, so that the *vegetative system*, with its nervous representatives, which is the mediator of the coherence between the Individual and Universal, — which embodies the life of the individual in the Universe, — becomes the bearer of all the activities of the organism, whence the vicariation of the plexus cœliacus for the brain, &c. Magnetism is any thing but an *enhanced* psychic energy; it is essentially a return to an inferior stage in the existence of the soul. The soul thus determined becomes, as it were, the matrix again for irradiations of external vitality, — a mere camera obscura, in which the “luminar shadows” of an extraneous subjectivity delineate themselves. It yields up its whole spontaneous subjectivity, and finds its conscious “self” either in the spirit of all nature, or in the magnetizing individual, to whom the magnetized patient

* So of the dream it is said: ὁπάζει τὸ ἀληθὲς ὄραμα.

stands once more in the relation of the foetal child to the mother. An analogy with the foetal state will also throw some light upon magnetic cures. That there is a reaction of the soul in this state upon the organism is easily understood by reflecting that the soul is here in a measure the mere formative ideality of the body, whose determinations shape themselves out again in the latter. It is a physiological fact, that strong psychic emotions in the mother during pregnancy not only modify the subsequent mental peculiarities of the child, but also its organic formation. We cannot question the too well attested phenomenon, that intense imaginations of the mother have expressed themselves in the foetal organism, producing monstrosities of all kinds. This sympathetic action is more than analogous to the reactive influences upon the constitution of the magnetized patient; the principle is the same. That consequently in many cases a diseased organism may be restored to normal life by keeping the soul under the influence of a healthy subject cannot be doubted, although experience must show in how far this energy is to be relied upon. I speak here of animal magnetism as it is, not of the numerous charlatanries which have been practised by means of it and under its name. The theories of emanating fluids, &c., the identification of animal with terrestrial magnetism, the use of the "bacquet," and similar nonsense, are ridiculous. Even the word "magnetism" is ill chosen; it can be justified, if we designate in general the "weaving process" of nature, the flight and coalition of materials and forces, in which the passive soul is whirled along, by the vague name of magnetism, whose precise meaning and import are, however, different.

Organic, especially nervous, diseases may naturally produce the same state. Other psychic phenomena, such as dreams, trance, somnambulism, &c., though belonging to the same category, demand a previous scrutiny of the

conscious and thinking mind, and I shall afterwards say a word in their consideration. — To resume, then : the so-called magnetic state of the soul is not an *advance*, but a return to the passive foetal state, in which all agitations are *induced, sympathetic*, — where the union with the universal spirit is *radical, immediate*. There is a higher mental unity of thought and feeling, of which, e. g., every true orator becomes conscious, when he electrifies the excited audience ; then, too, all individualities are for the moment blended ; but this is very different from the magnetism commonly so called. — There is something very remarkable, which has never, to my knowledge, been commented upon, in the phenomena attending the magnetic state of the soul, which most strikingly verifies the fact, that magnetism is a return to the natal union of the soul with universality, and that the magical intuition of the magnetized subject is merely a sympathetic feeling of the creative conditions of being ; it is, *that the “mysterious” enunciations of magnetized persons are never on intellectual topics, never aspire to a solution of the mental problems of man, of the great questions concerning the historical destiny of mankind, &c.*, but always regard the trivial organic relations of the individual, the connections of the organism with the barometrical state, as it were, of cosmic vitality, every-day family sympathies, and such matter. It is quite obvious here, that the magnetized subject has merely been laid again to the breasts of the telluric parent, — that it has been forced back to the state of impersonality, so that all the channels of direct cosmic immanations, which the waking subject, in distinguishing itself from “without,” closes up, are laid open afresh.

§ 82. The magical, irresistible attraction which often chains individuals to each other, the immediate sense of a mysterious union between two persons, arising at first sight,

root in the same sphere. The holy affection of the mother for the child and the child for the mother, the bonds of love which link members of the same family together, the instinctive recognition of brothers and sisters who had never known and seen each other, which has become the subject of so much romance, — all depend upon this sympathetic *natal* union of souls in their common psychic source. This category also embraces the immediate kindling of the flame of sympathy between persons of different sexes at their first meeting, the first origin of *love*, which strictly, however, belongs to a higher sphere, where it will be mentioned. — It cannot be too often insisted upon, that in the regions of the Spiritual we are beyond the “latitudes and longitudes” of the distinct, limited, exclusive Material, and that the *understanding* properly so called is out of its depth there. It does not follow from this, that a *comprehension* of psychic life is impossible on that account; a *measurement* only, an explanation on the principles of the lever and screw, or of hydrostatics, is impossible. It is horrid to read some of the empiric psychologies, especially English, phrenological treatises, and mesmeric theories, in which latter, the “mesmeric principle” being taken as a fluid, a hydrostatic system of the mind is literally established. I have once actually heard a mesmerist say, “that the mesmeric fluid of course sought its own level”!

§ 83. The perpetuation of this passive state of the soul, so that it remains the dominant tone of individuality, constitutes *idiocy*. All diseases of the mind are either petrifications of it, as it were, on an inferior stage, or in a peculiar isolated function; of these, idiocy is perhaps most easily comprehended. The mind, as has been and will again be shown, in its developed energy spiritualizes the received impressions, and fuses them with the general

stream of mental totality ; when this does not take place, the mind remains, figuratively speaking, in a vegetative condition. The causes are various, — usually extraordinary influences of natural agents, of climate, &c.; so that we behold idiocy sometimes a ruling feature of certain districts. *Cretinism*, a generic exhibition of idiocy, is met with in whole tracts of Europe and Asia, and appears to be peculiar to damp and marshy valleys.* The overwhelming terrestrial action seems to drown the force of individuality in such a case. Phenomena of this cast are just as natural as the prevalent occurrence of quinsy, inflammation of the bronchiæ, pleurisy, acute hæmoptysis, hypertrophies of the heart, &c., in northern, of dysenteric diseases in southern, and rheumatism, pulmonary inflammations, asthmatic affections, vertigo, headache, paralysis, &c., in temperate climes, or the local origination of contagious epidemics in deserts, wastes, and deltas, or marshy plains.† — The so-called *imbecility* of cer-

* Cretinism is prevalent in the cantons of Graubünden and Unterwallis of Switzerland, — in several parts of Tyrol, Kärnthen, Styria, Savoy, — even in some places of North America. See Foissac on the Influence of Climate on Man, — Göttingen, 1840. In Bretagne we meet with the Cagneux, in Chinese Tartary with the Capots, in Navarre with the Gaffos, in southern Spain with the Gavachos, on the isthmus of Panamá, &c., with the Albinos (Kakerlaken, Blafords), on the Pyrenees with the Gezzitani.

† It is well known that the great oceans of sand in southwestern Asia and northeastern Africa, — Arabia, the Syrian desert, Egypt and Nubia, the Libyan desert, &c., have always been hot-houses of epidemics. The plague of Thucydides originated in the Libyan desert; the Levantic plague arises in the plains of Arabia and Egypt, which latter is at the same time the cradle of leprosy, elephantiasis, &c. The black plague, the scourging angel of death during the 14th century, came from the desert Gibi, in central Asia. On the Mexican plains they have a similar plague, the “matlazahuatl.” The sweating fever of England, influenza, &c., seem to have been fomented there. All the countries washed by the sea on every side seem likewise to have a peculiar predisposition for the development of epidemics. The syphilis of the

tain individuals is a shade of idiocy. Such idiots, however, for a reason that will now be readily understood, have often a more acute perception of the undercurrent of life than persons of sane and vigorous mind ; hence the sagacity so usually attributed to idiots. They do not live an intensely subjective, but on that account a more emphatically "generic" life. Distraction and lunacy, insanity, &c., are recurrences of a similar state in the conscious region of the mind ; I shall speak of them in their place.

§ 84. All the so-called *emotions of the heart* are affections of the *soul*,—of the mind in its first unconscious stage. It is the soul which is soothed by the benign glow of the evening-red, sympathizes with the serenity of the morning sky, feels itself cradled on the billows of music, &c. On the wings of music we soar along in the great atmosphere of being, which is the home of our spiritual birth. Music throws us again into the arms of the mother-spirit ; in this embrace we feel ourselves akin to all the forces and efforts and laws and products and individualities of nature. *Music is the song of creative origination* ; it is the audible language which has spoken us all, and every thing in and around us, into existence. Music,

15th century came from the coast of Barcelona, or Naples ; our yellow fever in the South comes from the coasts in the Gulf of Mexico ; the cholera began its devastating migration through Asia and Europe in the delta of the Ganges. I have often wished for a mere empiric collection of all the *facts* relating to the influence of climate upon the evolution of organic beings, the production of diseases, &c., and for a statement of the successive modifications, which not only the organic kingdoms in their healthy existence, but also their great epidemics, have undergone in the lapse of time and by the variation of circumstances. How are the plague of Thucydides, the black plague, &c., related to the cholera ? There are speculations enough ; but no impartial inquiries into the data of observation. Such a work would be to the theory of organic existence what geology is to the physical description of present terrestrial forms.

therefore, is a tongue which every one has learned, — he knows not where ; which every one understands, — he knows not how ! We hear our whole being, all our reminiscences and hopes, whatever is cherished in our inmost soul, in the harmony and melodious cadence of music. In music the order of the Universe is roused, and figures itself on the breath and haze of sound !

II. *The Conscious Mind.*

§ 85. THE mind awakens to active existence by its reciprocation with the external world, in which it meets with its own laws and recognizes its own existence,— where, consequently, it finds *itself*. The old quarrel respecting the existence or non-existence of innate ideas in the mind, and which has created so much ado in English literature since Locke's denial of them, evinces the grossest and most irreflective ignorance with regard to the mutual position of mind and matter. Material nature is nothing, if you abstract the mind ; and the reality of the mind vanishes, if you destroy material nature. I shall not exhaust the reader's patience by expatiating upon the *assumptions* made by men who undertook to solve such questions without in any manner looking beyond them ; it is enough for us to have been taught by our investigations what *existence* is and means, to be rid of these quibbles at once. The Aristotelian “ nihil in intellectu quod non prius in sensu ” is true enough, if meant to imply that the developments and determinations of the mind depend upon a reciprocation with nature. So the antithesis between intuitions and cognitions *a priori* and *a posteriori* likewise holds good no farther than in this sense.

§ 86. The mind, in verifying its relations to the external world, determines both the latter and itself ; it converts the world into ideas, itself into reality, and both into reason. The conscious mind, in facing an object, first perceives its particularities — of time, place, &c. ; it is *perception*. But these particularities, as I have before demonstrated, are not insular existences, but *relations*, whose “ ensemble ” expresses the *idea* of the object ; in becoming sensible of an object in this light, consciousness appears as *observation*. Finally, then, the unity of this idea and of its relations, the complete object, becomes the property of the mind in *cognition*.

The three forms of the conscious mind, therefore, are :

1. *Particular, immediate perception, — intuition.*
2. *Generalization, — observation.*
3. *Idealization, — cognition.*

§ 87. (1.) IMMEDIATE PERCEPTION, — INTUITION. — Perception furnishes nothing more than the direct assurance, the object *is* — in this place, at this time, under these circumstances, &c. In this, the mind becomes certain both of the being of the object and of itself, for the *immediate* being of both consists in their relativity. The object becomes present to the mind, and the mind becomes present to itself. (In the Second Part we shall see that Fichte made this immediate self-distinction of the mind the starting-point of all philosophy.) — Things, as immediately existing, are the exteriorated ; they exist, consequently, in *space* and *time*, and are immediately beheld as such. But the nature of both is absolute relativity ; the bearings of this relativity are appreciated in *observation*. Thus, time and space are forms of *intuition*, — not, however, as if they did not equally exist without. — It is obvious that it were impossible for the mind to be affected by the particularities of the external world, if the

latter were not radically homogeneous with it. Perception is therefore not to be taken in the sense, that external objects in their figuration, solidity, &c., are engraven upon the mind, as upon a cartoon. The fixed existence and independent solidity of objects *dissolves*, not only before subjective reflection, but in itself. Objects are thoroughly relative ; their being is a complex of relations, which, *though a complex*, nevertheless constitute the objective unity. The particularities of perception on their own ground change into general qualities, general relations, which interpenetrate in this unity ; the particularity of the object spontaneously destroys itself. The object thus referred to generality is the object of

§ 88. (2.) OBSERVATION. — Observation, then, takes the object in its relations, in its general bearings, dissolves it into universal existences. The object is now no longer something fixed, absolutely present, merely being, but its existence is apprehended in its *mediation*. Observation beholds things, not in their isolation, but in their *common* existence. Not that they are in a manner seized and thrown into a common pit ; but generality, universality, is just as essentially the nature of an object, as particularity. Perception is not a pitchfork, with which existences are seized ; and the categories of the mind are not labelled bags, where they are huddled together. The ordinary notions of the operations of the mind are materialistic and irreflective to an amazing degree. The whole sophistry of skepticism, of the impossibility to know the truth of objects, depends upon nothing more than the notion, *that the mind is an instrument*, with which we lay hold of the external world. Pray, who, then, is the subject using that instrument ? It is astonishing that these sophists had not confidence enough in the great “ Artisan,” who contrived both the subtile nature of objects and the mind, to be certain that

the structure of the latter would be cunning enough to seize upon all the delicate threads of the object's "real nature."

§ 89. (3.) COGNITION. — Cognition finally reduces these generalities to an individual unity, in which they interpenetrate, and to which they refer, — whose nature they express. The object is then a unity phenomenal in general varieties ; an identity, internally diffracting itself into general differences, and pervading them as their inner idea. Cognition idealizes objects, that is to say, it refers the multiplicity of observation to a One, and the One to its external multiplicity ; it makes objects transparent, evolves the light of immanent unity from their dispersive aspects. In discussing the philosophy of Kant, I shall advert to this conversion of objects into ideas under other points of view ; suffice it here to say, that our ideas are not in any manner *copies* of external objects, nor *images* ; they are the objects themselves, in their reproduced spiritual nature. It is stated in almost all the text-books on psychology and logic, that in the conversion of objects into ideas the particular qualities are *eliminated*, i. e. omitted. This is rank nonsense. If the particular qualities be omitted, what remains of the object ? Certainly I should be at a loss to tell. The truth is, that it is the nature of the multiple relations to eliminate themselves, to reduce themselves to spiritual unity, because in this consists their true being, their essence ; but it is, conversely, the nature of the unity to exteriorate itself in the Manifold. *This compenetration of unity and multiplicity is the object of cognition* ; cognition deals with realities, not with shadows.

§ 90. The foregoing course of mental action may be resumed in these few words : *perception* gives us the im-

mediate certainty of the object in its space and time ; *observation* determines its *general*, but distinct *predicates*, which are finally resumed in the ideal unity of the object (or, speaking with reference to the predicates, the *subject*). Once more : the predicates *are* the subject ; they are not glued, plastered, upon it, and torn off, when the subject is idealized. Every thing exists *in* its properties, not *beside* them.

III. *The Thinking Mind.*

§ 91. COGNITION has effected the idealization of the object, which now stands as an individual idea. But the individual, insular idea is dependent for its determination upon the universal Ideal, — upon the Spiritual generally. The next task, then, is to rank this idea in its general connection, — to state it as a link in the whole spiritual tenor of the mind. The object is *known*, — it must now be *thought*.

The mind, therefore, is to establish the Individual in its relations to the totality of the Universal. In the first instance, these two present themselves as distinct from each other, and as such they are taken by the *understanding*. But they essentially bear upon each other ; the Universal, being the movement *in* the Individual, diffracts itself into the latter, and determines itself thereby. The two *mediate* each other ; and the syllogistic movement of mediation is the sphere of *judgment*. Finally, the absolute unity of the two is reestablished by *reason*, which recognizes the Universal as necessarily individual, and the Individual as necessarily universal, — which maintains their unity *in* their difference.

§ 92. (1.) UNDERSTANDING. — In the understanding

the thinking mind keeps the Universal and Individual asunder, as separate and distinct. We know, from the investigations of the first paragraphs, that the spiritual unity and its differences are both necessary for existence, and that they must both be kept in view. The understanding merely appreciates the differences, and abstracts from their unity. I have said in the beginning, all existences are relative; now every relation implies at least two terms. They are different *terms*: consequently there is a higher link establishing their internal unity; they are *different* terms: hence they are separate and mutually external. The latter side is that which is isolated by the understanding. In the view of the understanding, the Infinite and Finite, the form and the material, the Universal and the Particular, &c., are utterly distinct; their relation to each other is barely external. Thus the abstractly Universal, the Ideal, is taken as an independent existence: *form, idea, law, rule, axiom, genus*; with this the Particular is contrasted as the *informal, lawless, arbitrary, material*; then the latter is construed by the former, *externally referred to it*, and thus understood. It is evident, that, were this method of the understanding the ultimate and real one, the intimate nature of the material thus formalized would remain perfectly incomprehensible, — a conclusion at which, indeed, several philosophers have arrived. The ideal form, being perfectly heterogeneous to the crude material, could, of course, at most throw light *upon* it, but not pervade it, make it perfectly transparent, make it ideal light throughout. — The ideal forms have been termed (as the reader knows) *categories* or *predicaments*. The Pythagoreans already seem to have examined these categories, although Aristotle for the first time enumerated them, and their determination has on that account been attributed to him. (His table embraced ten categories: substance, magnitude, quality, relation, space, time,

situation, possession ($\xi\chi\epsilon\iota\omega$), activity, passivity, — to which the Peripatetics added five : antithesis, precedence, succession, coexistence, and motion. For an enumeration of the Kantian categories, see my discussion of his “ Critique of Pure Reason,” in the Second Part.)

Since for the understanding existences are mutually external, the sphere of the understanding is the Finite. Whoever, therefore, circumscribes his mental action by the boundaries of the understanding, must despair of an insight into the Infinite. But the understanding is to be recognized as limited, and to be confined to its sphere, where alone it is valid. The understanding, nevertheless, is a *necessary form* of the mind ; in the regions of the Finite, where most our activities, our investigations, and endeavours lie, it is the proper criterion. The intelligent man must *discriminate* ; he must be of keen understanding ; he must distinctly see the position of things and his own.


The developed philosophy, as it were, of the understanding is contained in Mathematics ; its triumph there is the sweep of form over all finite existences. In Mathematics, the ideal form is presupposed and found in the mind in the shape of *axioms* ; to these, then, every thing is held up ; with them all determinations are compared, and thereby defined. Such a comparison with an ideal form is called a *demonstration*. This depends upon nothing more than abstract coincidence and abstract difference ; but even higher mathematics themselves show us (the Differential Calculus, e. c.) that these two abstractions *as abstractions* are nugatory, — a proof that all existences and forms, if you honestly follow them up, drive themselves into an ulterior sphere, — into the sphere of absolute relativity, *the expression of movement*. — The understanding does not rest on its own basis ; its axioms and laws are not of its own making, nor open to its insight ;

they root in the domains of *reason*. As Kant would say, the understanding is not *autonomic*. While, then, we acknowledge the relative validity of the understanding, we are bound to rebut its arrogance, when it obtrudes itself as the ultimatum of the mind.

§ 93. (2.) JUDGEMENT. — The understanding takes the Ideal as the mere form to which the material is adduced. But, according to our first paragraphs, the Ideal determines itself as the Individual ; it splits of its own accord into its particularities, and regenerates itself therefrom. This movement, by which the unity discedes into severalty, and its resumption, is given in *judgment*. For the method of the judgment we are to look to the nature of the Ideal itself ; we have seen that the complete movement comprises, (1.) the Ideal, which (2.) states its particularities, and (3.) identifies itself therewith in the Individual. The exhibition of this is the *sylogism*. Old logicians have already remarked, that every proposition contains a syllogism ; the syllogism, then, is the unfolded method of judging. All the forms of argumentation may be deduced from this in the most consistent manner. I am not writing a system of logic, and give only the groundwork. That the mind invariably syllogizes is owing to this, that the mind is the Spiritual, whose whole life, ay, whose whole life, is syllogistic, and can therefore be mentally reproduced in syllogisms only. It is pitiful to imagine "that some other form would have done the mind as well," as the usual conceit has it. How often must we hear, "*it happens*, that the mind is *so constructed*, that from such and such data such and such inferences must be drawn" !

§ 94. (3.) REASON. — The Spiritual, as unital and identical in the syllogistic movement, reinvolving itself in-

to its inner intensity, not *from*, but *in*, this movement, is the object of *reason*, and identical with it. Reason resumes the whole nature of the object, — its *truth*, — not as *ideal* only, nor as *particular*, but as the whole unital process of its development and life in its integral completion. Whatever is an identity *in* opposition and difference, a unity *in* multiplicity, can be comprehended by reason alone ; — the Spiritual, life, the soul, the mind, light, electricity, &c., are all objects of reason. It is reason which comprehends the true nature of all existences. Reason is the silent understanding between the particular terms of existence, whispering the secret of eternal love, of infinite unity. It reunites what the finite understanding had separated, and reconciles what limited comparison had estranged. All nature is reasonable, and breathes upon us with the aspiration of thought, speaks to us the language of mind. But reason only, not the understanding, is alive to its teachings ; reason only, not the understanding, has access to nature's sanctuary. We feel an instinctive horror against the idea, that the understanding, with its mechanical constructions, should ever be enabled to resolve the discrepancies of the Universe, and justly : for the one great breath which animates us all, the one spiritual tone which resounds in us all, the one infinite love which binds us all, would then vanish. Nevertheless, we have not merely the incessant longing for removing the veil which interposes between us and nature, but the fullest confidence that we *can* remove it. We are sure that nature cannot remain a stranger to us ; that nature is the depositary of our own being, the revealer of our own secrets. We cannot quench the thirst after knowledge. We all summon the spirit of nature by its infinite name, and feel that the meaning of that name is written within us. We, our real "selves," are essentially reason — in our impulses to thought and action ; our whole being centres there.



Reason constitutes, or rather *is*, our freedom, for it makes every thing one with us, so that there is nothing *strange*, nothing *foreign* to our nature, by which we are determined and circumscribed. Only where there is *opposition*, there is *necessity*. Necessity is but *partial freedom*, freedom *split*, as it were. Animals are not free ; in our particular impulses and passions we are not free, — on account of their particularity. Nature's material forms are necessary, for they are the mind in material diffraction ; the mind itself is *infinite*, and therefore beyond all shackles.

§ 95. The whole process of the mind, as we have hitherto followed it, is but an internal reproduction of the spiritual realm, by which the mind impregnates itself. From its manifold manifestations and actions the mind resumes itself in internal unity, — not the unity of the abstract soul, but of the concrete spirit. The mind *recollects* its actions in itself. It becomes the complete, actual Spiritual. It *is* the Spiritual, therefore percurs all its phases, states in its own being all its laws, appropriates all its manifestations. It is thus a world and a creator of its own, evolves from its bosom conceptions and thoughts, and *brings them to its own light, states them in its own time and space*. From a power in universal existence it becomes a power *against* the same, — the *procreative mind*, which we will next consider. The basis of the procreative mind is the resumed unity of its recreative actions, the recollection of its manifestations, — in short, *memory*. The contents of this being now formed by the mind's own activity, and evolved in definite existence, give the products of the *imagination* (in the larger sense, including language, &c.), until finally the whole energy and unital supremacy of the mind appears as *will*.

THE PROCREATIVE MIND.

I. *Memory, the Basis of the Procreative Mind, and Remembrance.*

§ 96. MEMORY is nothing else than the mind itself as the unity in its manifold activities. I need no longer prove that this unity is logically necessary to the Spiritual. The memory (or any other so-called faculty) is not a power or an instrument given to the mind, and accessory to it. The mind without memory is naught. I will not waste my time in combating materialistic whims, such as that according to which memory is an *impression* on the plastic cerebral mass (for which the high authority of Plato is cited), — or the hypothesis of Bonnet (Psychological Anthropology, p. 240, seqq.), that there are certain nervous fibres endowed by mental action with a tendency to certain kinds of motion, — or the theories of Gall and others.

The mind, in *living itself* into its world of perceptions and ideas, internally states them in its individual time and space, in a definite order of connection, and this order of connection we term *association*. Association is but the logical order in which the action of the mind records itself. Memory, then, depends, as all empiric psychologies teach us, upon association. Unless such a distinct association has been formed, there is, of course, no *real mental action*, and consequently no memory. The more intense the internal assimilation of ideas, the stronger the memory. Persons of energetic and constant mental action have invariably a good memory ; though it be not a memory of words or forms, since the attention was directed to *relations* and *inferences*, and not to things.

The difficulty in treating of the mental stages consists in this, that we cannot take them into consideration other-

wise than successively, whereas in truth the resumption of the mind to its unity occurs in every phase of mental action. I hope that I shall not be understood, therefore, as if memory appeared only after the whole previous process has been percurred ; there is memory after each sensation, perception, and so on. But as the memory of *ideas*, it has its logical place here.

The mind is *free* ; it acts of its own accord, by its own impulse ; it therefore conjures up its ideal stores from the recesses of its being, and thus *remembers*. The law, the "tenue vestigium,"* according to which remembrance is effected, is, of course, again association. — *Remembrance* is already a transition to the second stage of the procreative mind, namely :

II. *Imagination.*

§ 97. It is in the nature of the mind, because it is in the nature of the Spiritual, to individualize itself in definite forms ; and in the activity achieving this the mind is *imagination*. By means of it the abstract existences of the mind become concrete. The mind shapes itself out, expresses itself in *language, in conscious gesticulation, &c.*, which might be termed the *imagination manifested*. What is usually termed *imagination* ought to be exclusively designated by the word *fancy*, — the *unexpressed imagination*, — in a measure intermediate between it and remembrance : the independent creative association of ideas furnished by the memory. I shall have occasion to speak of the highest energy of the imagination in *art, poetry, &c.*, where the whole order and essence, the whole unital coherence and spirituality, of the mind produces

* "Redit memoria tenue per vestigium." — Seneca.

itself in the definite forms of the Beautiful ; the limits of this little treatise confine me to merely assigning general points of view.

III. *Will.*

§ 98. THE procreative mind in its perfect concentration, in the full, unital assertion of its freedom, is *will* *Will*, in its permanent truth, *is the re-intensation of all the preceding developments of the mind in its active spiritual identity*. When the Spiritual has perfectly re-developed itself in the mind, re-collected its infinite essence there, concentrated the boundless world of its energies and evolutions in it, it has, in a measure, found its ideal centre of gravity within itself, and thence extends itself in free action.

The circumstance, that I have considered the procreative mind after the recreative mind, has not, I trust given rise to the false notion, that the development of the former absolutely precedes that of the latter. The two spheres coexist, and develop themselves jointly. Thus we have memory, imagination, and will, corresponding to perception, observation, &c., &c., which gives, for instance, memory for bare facts, memory for relations, memory for ideas, and so on. Similarly of imagination. A very interesting psychological parallelism, exhibiting a full table of the "faculties," would result, the details of which do not belong here, and can be readily found by the reader. — My first intention was to give the evolutions of the recreative and those of the procreative mind in two columns on the same page in coördination ; but I feared lest it might be regarded as a studied oddity. — The remark just made is to be particularly kept in view with reference to *will*. We have will corresponding to par

ticular affections and desires, — *will in the regions of the potential mind, with its impulses and passions* ; then will corresponding to the reflective consideration of our whole well-being, to which the particularities of impulse are subordinated, — *will in the regions of the conscious mind* ; finally, will corresponding to the integral nature of spiritual existence, to our true eternal destiny, — *will as the expression of the thinking mind on its acme, — reason*. It is this last of which I spoke above under the name of *will in its permanent truth* ; and in this last only the mind is *absolutely free*. The first instance of the will is yet *fickle caprice, the egotism of the moment* ; the second is the *egotism of man in his physical capacity* ; the last, *the noble egotism of man in his spiritual capacity*. *No man can be any thing else than an egotist* ; but one egotism ought to be spiritual egotism, — the egotism, not of the understanding, but of reason, founded therefore upon a perfect identification of the “ I ” with the universal Spiritual. *True egotism is absolute generosity, absolute love*. The martyr, who mounts the scaffold for the maintenance of his spiritual freedom, and the hero, who sacrifices himself on the battle-field for the weal of humanity, are both perfect egotists, *because they assert their true spiritual self*, their infinite nature and destiny, in the act. Without this act they would renounce themselves. The everlasting cavils (of the French philosophers, e. g.) tending to prove that the holiest traits in man, such as love, are mere egotism, and that therefore there is no absolute virtue, are rank absurdities ; absolute egotism is absolute virtue. On the heights of absolute reason, where the true will of man, his egotism therefore, takes its stand, there is perfect coincidence of right and duty, of wish and objective requirement, of individuality and universality, of freedom and necessity.

Upon similar sophistries the execrable exhortations to

a perfect renouncement of individual will (and hence also individual reason), to so-called *absolute humility*, are founded. Certainly, we must be *humble*, and practise mortification, i. e. we must resign our particular desires and passions; but for the purpose of sustaining our *real* individual nature. We *must* be conscious of our infinite being, and *must* assert it, *for in it we are conscious of nothing else than the absolute dignity of the Spiritual*. Whoever follows the admonition as usually given, whoever distorts his mouth to a caricature, looks artificial miseries, and vents his lurking conceit in the phrase, — “I am nothing but dust,” — assassinates the divine being within him.

§ 99. Were the mind perfectly developed, — were it the complete reality of its ideal, potential being, the perfect expression of its infinite meaning and eternal import, all minds would immediately be the Universal, and none would be in any respect complementary; there would be no association of men, no mutual completion. But we have seen, that the Universal, though completely *present* in the mind, and identical with it, unfolds itself in the individual *gradually*, and then, moreover, with the preponderance, now of one, now of another, of its features. *The entire Spiritual develops itself, therefore, only in humanity collectively and historically taken, — in mankind.* The Spiritual defines itself and holds itself up to the Individual as the object and purpose of its realization by means of its existence in mankind, — in the *ideal man*. Man, therefore, is necessarily a member of society; and his dependence upon society is the greater, the less his mental and physical development. The individual is the perennial child-man and child-mind; the man-mind is Spiritual mankind in its being and history. I shall take this principle up again afterwards in speaking of the

organization of society ; for a moment I must interrupt our deductions, in speaking of some diseases of the individual mind.

ABNORMAL STATES OF THE MIND.

Habit.

§ 100. I HAVE had occasion to state, that all disease is either a continuance of life on an inferior stage of development, or a petrification in a particular phase. With this principle we can in a few words define the so-called diseases of the mind.

All the particular stages remain present in the mind throughout the entire range of its manifestations. The first psychic state of the soul, therefore, as the immediate unity in and with the body, accompanies thought and consciousness ; but no longer now as a vague, indeterminate principle, but as determined, differentiated, *charged* with the results of mental activity. It stands in the capacity of *soul*, and lives in direct union with, symbolizes itself in, the body ; but it has become internally concrete, thoroughly defined. This immediate active presence of the soul constitutes *habit*. — It may seem strange to enumerate habit among the mental diseases ; but it must be recollected, that the perfect, healthy mind is free, conscious, spontaneous self-determination, which in habit is extinct. — The saying, “Habit is second nature,” is very expressive ; the “first nature” is the peculiarity of the soul brought about by objective influences ; this “second nature” is the same characteristic peculiarity, but as the result of the spontaneous activity of the mind. This latter can thus become, in a measure, a substitute for the former ;

“for use can almost change the stamp of nature,” —
 “and habit he [man] calls his *nurse*.” *

Dreams.

§ 101. SLEEP, we have seen, is the return of the soul to its unconscious, foetal passivity. But it follows from the preceding paragraph, that this passivity differs from the primitive state in being ideally fraught with the products of conscious action. If now, from organic causes, the mind becomes alive to reproductive activity, without awakening to consciousness, these ideal contents of the soul are evolved in images, which are incoherent and fantastic in so far as the mind acts unconsciously. Something remarkable has always struck me, which I have not seen adverted to by psychologists, and which shows most obviously that dreams are phenomena of the mind, in the bare, unital, undifferentiated subjectivity of the abstract “I” in the body: it is this, that in dreams we almost invariably *personify* every idea and feeling. The dreamer of adventures is always himself the hero. — In dreams there is, of course, association, but no conscious, and therefore no reasonable association. Generally those impressions on the mind, which have been last produced, make their appearance first and most readily. — Ordinary dreams are consequently nothing else than the unconscious revivification of conscious activity, — the reflection of the mind’s conscious sphere in its unconscious region. Thus dreams have been beautifully termed “the moonshine of thought.”

The soul in its passive state may be sympathetically affected by innervations of cosmic life, and these, exciting

* “Und die Gewohnheit nennt er seine Amme.”

reproductive mental action, may shape themselves out in the material of imagery and thought slumbering in the mind ; in that case, we shall have the so-called clairvoyant and prophetic dreams, anticipations, &c., — “the shadows which coming events cast before,” — “the spirit preceding destinies, the to-morrow walking in the to-day.” * In this sense it is true, what Calderon says with another meaning, “that all life is a dream, and [even] the dreams are dreams.” †

*Idiocy, Distraction, Dotage, Lunacy, Insanity,
Mania, &c.*

§ 102. OF idiocy I have before remarked, that it is the perseverance of the mind in its embryotic existence, so that it remains the mere passive *soul*. In *distraction* the activity of the mind is completely merged in a particular act, so that for the rest the same passivity ensues. There is an idiotic, habitual distraction (to which also dotage is akin), which is nothing but a phase of idiocy.

To gain an insight into the nature of insanity or lunacy, we must recollect that the sound mind, on the one hand, differentiates itself into several conscious activities, and resumes these, on the other hand, in its immanent spiritual unity, so that all the particularities of consciousness become links of an internal logical chain. If now the differentiation takes place without the resumption, which then states the particular acts out of the mental coherence,

* “Wie sich der Sonne Scheinbild in den Dunstkreis
Malt, eh' sie kommt, so schreiten auch den grossen
Geschicken ihre Geister schon voran,
Und in dem Heute wandelt schon das Morgen.”

† “Que toda la vida es sueño,
Y los sueños sueño son.”

there is mental derangement ; if this be the case with certain acts only, — if the derangement be *partial*, we have *lunacy* ; if it be general and complete, we have *perfect insanity*. Lunacy, therefore, is a petrification of the mind in particular acts without their fusion with the general *being* of the mind ; perfect insanity is the absence of all fusion. In the sphere of the procreative mind the same disease manifests itself as *raving, madness, frenzy, &c.*

ORGANIZATION OF SOCIETY.

§ 103. THE individual man, both materially and mentally considered, though representing, and *potentially being*, the universal Spiritual both in its material and ideal existence, is yet but a tone in the grand universal harmony, a word in the entire language of the Spiritual, the whole revelation of which is mankind. In the individual we have distinctions of character, of talents, of organic and intellectual features, according as one or the other trait of the universal spirit of creation has recorded itself in him with predominant energy. In completely developed minds, — the beau-ideals of mind, — these distinctions would disappear, as they actually do in a great measure in eminent persons ; but the full realization of the ideality, which forms the groundwork of every “embodied reason,” is never attained in an individual ; moreover, the progress of that realization is a gradual one. Man is, then, a complement of universal mankind. Not that mankind *aggregately* are the full Spiritual ; its powers, which are fractionally evolved in the individuals, *slumber* in each one, and each one, therefore, has the being of mankind for his inmost nature. His destiny, then, is to identify himself with mankind ; now obviously this is possible

only if the individual man integrates himself in others, if he becomes an active, reciprocating member of society. He must live the whole life of the mind in all its phases, and these phases surround him in the guise of his fellow-beings.

The physical and mental salvation, the providence, of the individual man is universal humanity ; for this he is to sacrifice, and from it to hope every thing. Nature and humanity are the incorporations of the one eternal mind, whose activity never ceases, whose energy never fails to show itself, — in which all the partial discrepancies of life and mind invariably meet with their redemption. Look to the individual, and you find inconsistency, irregularity ; survey the whole, and the same constant ratio in physical and intellectual evolutions is preserved. The law of physical compensation in nature is not more certain than that of spiritual redemption, for it is *one great spiritual life*, of which all existences are the luminae shadowings. This is the consolation of the naturalist and the historian, that all the defects of the Particular complete themselves in the Universal ; that the Spiritual, when it seems to have vanished from a particular point, is nevertheless *entirely* present in universal humanity, laboring with *all* its power at the immense work of its self-achievement in historical mankind, from whose countenance it radiates its pure light, in whose energy it lives its full life, in whose bosom it deposits all its reminiscences and hopes, all its fruits and germs.

Man, then, must make the entire material and intellectual wealth of mankind, the acquirements of every age and clime, his own. The system of his reciprocation with society, therefore, again becomes in every respect an organization, whose progress I will now delineate in a few words.

I. *Person.* — *Property.*

§ 104. IN his immediate existence the individual man is the *person*. Man *is* mankind. The etymology of the word *person* — from *personare* — beautifully expresses, that the Universal *speaks* through the Individual as a medium. The objects and purposes of man are those of mankind, and the acme of the individual mind is its perfect identification with universal reason. Whatever, then, is the destiny of mankind is also the destiny of the individual. Now the destiny of mankind, as of the *mind* of nature, is, first, to bring all the existences and forms and laws of the Universe under the light, and to reduce them to the unity, of intelligence ; and then, to energize in the material world, shape it in conformity with its ideals, and make it both the means and the record of its action, — in both cases, therefore, to spiritualize the Material. Thus also it is the calling of the individual man to stamp himself with the figure of universal spirituality, and to become the organized intelligence of its media ; and next, to transform these material media into a means and a history of his activity. The material media thus marked by the action of the individual are his *property* ; they bear the impress of his life, and hence they are his *own*. Property is not only the bare condition of man's sustenance ; it is also the written document of his action, his recognition and will ; it is the recorded language of his organic energy. The desire for individual possession, and its necessity as a groundwork and stimulus for the continuance of activity, is connate with man, and no theorist will succeed in eradicating it.

But man not only *is* mankind, he is also *of* mankind, — an integrating part of it. His *individual* consciousness and thought, his *individual* energy and will, must be-

come *universal* consciousness and thought, *universal* energy and will. Man is therefore not merely to assert himself *against* all other individuals, as a world by himself, drawing intellectual and material boundary-lines around him, but he is furthermore to become *one* with his fellow-beings, — to commune with them in love and labor and thought. Man must find himself in man, mind in mind. The person must become a member of society, the next immediate form of which is *the family*.

II. *Family. — Inheritance.*

§ 105. A UNION of man with mankind is necessary, we have seen, because the different individuals represent different stages and directions in the actual development of the universal idea of organized mind. *One* finds his being, therefore, in the *other* ; they commune and identify themselves, because they are spiritually identical.

The immediate union of the individual with humanity is the union of man and man, of the simple “I” and “Thou.” This union is one of two individuals *present* to each other ; and yet it depends, according to the principles just cited, upon a *real* difference in the representation of the spirit of nature. This difference must therefore be based upon something else than external influence and circumstance ; it must be *natural* and *essential*, — an organic difference of *sphere*. This difference is given in the sexual relation. The primary social union is therefore the unity of *man* and *woman*. This union is to be more than an external junction ; it is to be the identity of being with being, of mind with mind, of existence with existence. But this unity is a *spiritual* one, including therefore the difference. Though man is to see himself in woman, and conversely, — though man is to find the mys-

tery and depth of his being in her, and she the energy and actuality of her nature in him, — yet they must be the same identity under different aspects. And this distinctness is indeed exhibited in man and woman. Woman is mentally what she is physically : conceptive, predominantly passive, introverted, merged in herself ; man, on the contrary, is imparting, active, asserting his existence by exteriorly efficacious energy. Woman is the ideal, of which man is to be the reality. Woman is the clear, limpid source of all mental energy ; man, its rapid, propulsive stream. The life of woman is the quiet mental *home* of man ; his active existence is the life of woman varied by exertion and conflict, checkered by adventure, ennobled by vigorous coöperation in the work of history. Woman's being is the glossy lake, reflecting the skies above and the flowers on its borders, ruffled by no commotion, and heaving only with sympathetic ebbs and tides ; in man's existence the same waters tumble over the rocks of the Niagara, with no beauty but that of grandeur, with no charm but that of energy, — not *reflecting* the pure light of heaven, but *refracting* it in the colors of the spectral bow. Woman is the feeling soul and the sensitive heart ; man, the inquiring, restless, courageous mind. Woman represents man's generic destiny ; man, the partial and hazardous realization of this destiny. The pure ideal destiny of each individual, his true "better nature," the characteristic ideality of his existence, has been personified under the name of his tutelar genius or guardian spirit ; in that sense woman is truly man's tutelar genius. She is the harmony into which the discordant passages of his life resolve themselves ; she is the voice of his primitive innocence, calling him to "himself" from the strife of passion and ambition. Woman is the *peace* of mind, man its *struggle*. The infinitely serene being of woman is the starting-point and the goal of all

the turbulent exertions of man. (Hence women are justly the centres of all social intercourse.) Man sees all his aspirations and wishes and efforts prefigured in the silent nature of woman; woman beholds her musing dreams awakened to vigorous action and reality in the labor of man.

The union of man and woman is thus not an outward alliance; it is perfect identity. Her soul is to irradiate his existence, and his mind to impregnate her being; her pulse is to beat in his actions, and his energy to quicken her heart. They are to be one, — *spiritually* one, for they are one in two. They are to be *spiritually* one, and therefore *eternally*. The relation of man to woman, consequently, seals itself beyond recall in the *marriage vow*, in which the notes of their being collapse for ever in one tone. They surrender themselves to each other wholly, entirely, without reserve; whatever woman is, she is to be in and through man, and conversely.

One of the diseases of our age is the cry for the so-called *emancipation of woman*. The very simple answer to this demand is: *man and woman are one moral person*, not by act of law, but by act of nature. I do not mean to reiterate at length, that the vocation assigned to woman is, to be the bright and quiet mirror from which the activity of man reflects itself. Not that woman is to be a mere household utensil, — that her interest is to confine itself to the needle and board; she *must* sympathize with her husband's aspirations, understand his movements and actions, accompany him in his struggles, breathe her love around all his efforts. Man and woman are to become perfectly transparent to each other; how else could they be one? — but, publicly, she is to act only by proxy, through him; *for they are to be but one will*. The whole significance of marriage lies in this, that in it the first identification of the individual will with the universal will

is effected. To assign woman, therefore, a political and social position independently of the husband would not only be mistaking the vocation of woman, it would destroy the eternal meaning of the marriage relation, and make the social organism a rickety mechanism. Marriage is a union of souls, — not a contract ; a union of hearts, — not a joint-stock enterprise for the acquisition of wealth ; a unity of consciousness and mind, — not a mere decent form disguising the gratification of animal instinct. The love which binds man and woman is a flash of divinity, as well as the light of heaven, which enounces the unity of the sun with the planet. Marriage is not a *means* for any finite object, for it is in its very nature infinite.

The zealots against the indissolubility of the marriage tie allege, that marriage is founded upon *love* alone, and that nothing can keep the parties together, when that love has vanished. Obviously, to them, love is nothing more than a transient passion or even a brute instinct ; and such bonds are far worse yet than those of material interest. Can a momentary effervescence of the affections be *love*, — a recognition of mutual divinity ? Man is essentially reason, — mind, — internally and externally, to the marrow of his bones, in all his feelings and doings. Nothing is truly human which does not bear the stamp of the self-cognizant Spiritual. All the impulses and sentiments of man are valid, and are to determine his being, only in so far as they are accredited by reason ; every emotion is to be transfigured into *mind*, and love is not excepted. Man's life is a unity, — the thorough and consistent verification of a thought ; man does not live in momentary impulses and desires. Unless every thing be subordinated to this unity, he is — an animal. This by no means derogates from the depth and absorbing power of love ; it intensates instead of enfeebling it. Hence the current

saying, that love disappears with marriage, is utter nonsense. Where true love existed, it lasts, — the so-called disappearance is nothing more than an awakening of vague, indistinct, but on that account not the less sure, presentiment to clear and distinct thought and consciousness. If love after marriage loses in flickering glow, it doubly gains in earnest fervor. It is lost only where it never existed. Love is the Spiritual in all its purity, and the Spiritual is its own precaution and redemption and warrant. Let every one be sensible of the inborn sanctity of his nature, and those who are destined for each other will meet. There are, undoubtedly, lamentable cases, where two persons labored under an illusion, — where the continuance of the marriage bond would be destructive of every happiness ; but they are to the true relation in its generality what diseases are to the organism, and can nowise influence the general regulation of society. Let me ask the advocate of “emancipated women” a plain question : Would a noble woman ever throw herself into the arms of a man, without the mutual oath of eternal unity and love ? And could any one swear the oath of *any love at all*, without the *certainty* of eternal duration in the background of his consciousness ? There is no question of love without this certainty.

Mind, the Spiritual, the principle of conscious unity in man, must sanctify his entire being, and be the golden, luminar tissue by which his life is woven into a thought. By every action without this sanctification he profanes his nature. Every act of physical communion between man and woman, therefore, ere the word of everlasting fidelity has been spoken at the altar of humanity, is a desecration of the inalienable sanctity of man. It is just as degrading, and more despicable, in a man, to sacrifice the purity of his youth before marriage, as it is in woman.

The family home is the sacred hearth, where the first

flame of virtue, of generosity, of universal humanity, is kindled.* It is the birthplace of true liberty, of social order, of patriotism. Hence history teaches us, that all those nations with whom the marriage vow was held sacred, where conjugal fidelity prevailed, were socially happy, free, and vigorous in their historical development. Look to Tyrol, to Switzerland, yea, to some Asiatic nations. Our American fathers would have failed in their efforts for emancipation, as the French did in their Revolution, had not the virtues of their homes blessed those efforts.

The "reformers" of the day, could they succeed in annulling the family, would undermine not only the *existing* social edifice, but sap *all society*. He whose heart has not beat at a mother's bosom, whose breast has not been warmed in the embrace of a father, to whom the words brother and sister are abstractions, will never, as the socialists dream, feel his pulse throb more quickly at the catchword of "universal brotherhood." †

Once more, then : the union of man and woman is the first revelation of universal divinity in society. If it be degraded to any thing else, — if it be a common enterprise for the realization of material purposes, &c., it is a profanation of the holiest in man. The curse of humanity is upon those who pronounce the word of love to the jingle of two pennies in the same bag, or to the flash of animal passion in the lustful eye. The maintenance of

* "Da wo die Lieb' erwachet, stirbt das Ich, der dunkle Despot ;
Du lass ihn sterben in der Nacht, und athme frei im Morgenroth."

"There, where love awakens, the 'I,' the gloomy despot, expires.
Do thou let [this despot] die in the night, and breathe freely in the morning dawn."

Rückert.

† For the information of some of my socialistic acquaintances, I remark, that the above was written towards the end of 1846, — *unde certaminis æstus*.

woman by man and the procreation of children are incidents to the marriage relation, but not its objects.

It is characteristic of every organic formation, that it amplifies itself on its own grounds to a higher sphere. So of the family. The spark of love between man and woman proceeds to light the fire of parental, of filial, of fraternal love. The virtue, in which man and woman recognize each other, is imparted to the children, and fostered in the bosom of the common home, thus becoming enduring *morality*. The virtues of the parents are to be bequeathed to the children, and with them their mental and material acquirements. In the family the children are to be *educated*, — from it they are to derive the first material conditions for their future efforts. The laws of *inheritance* are founded upon the very character and significance of the family. Property is but an expression of the effort and will of him who has acquired it ; this will is transferred to the offspring, and with it the property. We shall presently see that this holds good, of course, only in so far as it is consistent with the weal of society in general.

The family is but the first step from the narrow bounds of egotism to the heights of spiritual universality in mankind. It is to effect the first humanitarian consecration of the individual, — in its quiet seclusion to foster the awakening sympathies with society, — to expand and enoble private feelings and impulses to the divinity of absolute reason. The family is an altar, on which the first incense to the one all-embracing spirit of humanity is burned. The family is essentially a *religious* institution, and its precincts are holy. The family home is the heart, where all the pulsations of society and history are felt and repeated. To make it the centre and the goal of material pursuits only, to consider it as a *safe* for the insurance of physical egotism, or as a cosey nook for draw-

ing the nightcap over the ear, to make it merely the abode of *comfort*, precluding all participation in the welfare of others, is again a profanation of the sacred abodes of divinity on earth.

Nation, State, Law, — General Responsibilities in Society.

§ 106. THE spiritual nature of man, which is cultivated in the family as *morality*, is enounced in the form of a positive assertion by the voice of society as *law*. The law is nothing *extraneous*, nothing foreign to man ; it is nothing more than the universal reason slumbering in every individual mind, which manifests itself in the collective evidences of the Spiritual through its separate impersonations. The incorporated authority of the law, the *state*, is nothing else than society organizing itself ; it is not a *machine*, of which the individuals are the material. The assertion has frequently been made, and is daily repeated by the wiseacres of this country, “ that the *form* of government is a matter of indifference, provided men live in perfect conformity to law.” As if the law were nothing more than an outward rule, according to which men are to shape themselves ! The beau-ideal of a government would then be found, if a state had been devised in which every thing was perfectly *moulded* according to certain presumed divine criteria. The forms there would be of external derivation, society standing as the brute mass, to be circumscribed and defined by them. But this “ brute mass ” is the bearer of universal spiritual life, — this “ material ” *lives* and *reasons*, — this society thinks and acts spontaneously and develops itself, — in a word, exists as a spiritual organism ! It is inherently, necessarily, a unity, not only for physical, but especially for mental

coöperation, — not because the lawgiver has by main force riveted the individuals together and bound them by the same command ; nor even, as the theory of Rousseau has it, because the individuals accidentally *consented* so to constitute themselves, but because society is but *one* eternal spiritual life. The law, therefore, is the *expressed consciousness* of society, — the act of intelligence, in which society takes cognizance of its immanent universal reason, — the act of volition, by which it establishes the validity of the unfolded Spiritual as paramount to particular impulses and opinions and desires. In the law society writes its own thoughts, reads its spirituality, brings it to the consciousness of its constituent individuals, and proceeds to regenerate itself, — *to think itself anew*. The form is by no means *adventitious* ; it is *essential*. *Whatever is organic, — lives, — can have but one form ; the form is the thing, and born from the essence, not added to it.* And that society lives and is organic will not be disputed, I hope. Society is progressive, — a progression towards *itself*, towards the Spiritual, of which it is the representative. — I have stated and shown that it is the destiny of the individual to identify his private reason and will with universal reason and will ; and, obviously, this can take place only if the latter, in the form of law, be in the consciousness of the individual, and reproduce themselves *in* and *from* him. The organization of society is, therefore, *essentially democratic*. The objects of government are by no means barely to secure tranquillity, formal justice, stability of affairs, &c., as we are told by the prevalent theories of government ; the object of government is *to embody the life of society*. And how could it embody the life of society in proceeding from a few individuals only, or in being superinduced from without, — in a word, unless it were *democratic* ? A government, offering the strongest

guaranties for individual security, material prosperity, formal justice, &c., if it were not born from society, not the representative of the people's reason and will, would nevertheless be an abomination ; for it would be a stronghold for the imprisonment of divinity in man. Government is not a *means* for any extraneous purpose at all ; it is its own object and purpose, because it is a concrete form, in which the Spiritual exists. Whatever is life cannot be construed according to a table of means and ends. Of course, government, such as it ought to be, *democratic government*, will likewise fulfil all these purposes, and be the most powerful warrant of the peace, prosperity, and happiness of the individuals, — a thing quite easily proven. We have a number of irreflective pedants in this country who bode downfall and destruction to our republic, "because Greece and Rome have vanished before us." There is no greater illusion in the world than the inference of an identity of things from an identity of names. Was Greece a republic, when it branded all those not born within the confines of Hellas as barbarians ? And was Rome free, when it shouted, "Long life to the Republic !" only after having put its foot on the neck of another slave ? Or was France a democracy, at a moment when revenge and blood had drowned all consciousness ? But there is annually a day with us, when the heart begins to thrill and the countenance to brighten for a life to come, at the solemn enunciation of the simple words, "All men are born *free* and equal," which, I am assured, will soon be *perfectly* a truth.

But what are the guaranties of a democratic government ? Whoever knows why he is a republican will disdain every other answer but this : the eternal reason, the Spiritual in man, which lives its life in that government. There is nothing higher than the Spiritual ; you cannot

prop it, you can offer no other earnest of its prevalence, than its own infinite power, than the energy of its own life. Nothing material, no "balance of interests," nothing beyond this spiritual life, can give "bail" for the Spiritual. And to what do *you* trust, who come with a theory, that the will of the individual must be extinguished, and a set of external laws substituted for that will? Must not your laws be *adopted* by society? And ere they become effective, must they not agree with the will, and therefore proceed from the consciousness and be sanctioned by the *reason* of society? Have your laws, therefore, any other strength, and can they afford any other security, but that of *reason*, of the Spiritual in man? Is the confidence in the prevalence of your laws, then, based upon any thing else than the faith in the power of reason in man? *All governments, however despotic in appearance, are in reality democratic.* Even the despot is the creature of the people's will. If the slaves of a despot collectively will to be free, has the despot any superhuman power to restrain them in their fetters? *The only difference between democratic and other forms of government is, that in the former the will of the people is a conscious and rational will, in the latter unconscious and unreasonable; that in the former thought and action are based upon conviction, in the latter upon illusion (to which belong irreflective, "canine" loyalty, slavish terror, &c.) brought about by hypocrisy and craft and a systematic animalization of man; that in the former society dwells in the light of day, while in the latter it gropes in an artificial night; THAT THE FORMER IS A TRUTH, THE LATTER A LIE.* It is a truism, to say that the universal tendency of society is towards democracy.

I have said, that government, like every organic bearer of spiritual life, cannot be valued and defined by outward purposes. An instance of this is the ordinary assertion,

“Democracy is unfavorable to the culture of the arts and sciences.” No matter as to the falsehood of this ; first let us see what are the arts and sciences. Nothing else than the flower of the life of society, the expression of healthy social vigor, of the energetic realization of the Spiritual in society. The arts and sciences are of no other value than this. Science must be a beam of intelligence from the eye of the social organism, art the flush of beauty on its cheek. Both must be at the same time the fruit and the germ of the *whole* organization ; if they are not this, they are utterly worthless. The only thing we can do for the promotion of art and science among us is, to foster the *life* of society. Cultivate the plant, and its blossoms will greet the eye. It is a despicable, narrow view, to consider mankind as a set of craftsmen, destined to daub so many yards of canvas, to write so many books, to strike off so many epics, to fulfil so many commandments, whose connection with the purposes of human nature is nowise discoverable, to body forth so many foreign, *extraneous laws*. *There is no purpose for man beyond HIMSELF*, i. e. his true spiritual life. As to the treasures of art, which in Europe accumulate in the halls of the rich, unseen by the eye of ninety-nine hundredths of society, they are just as important to mankind as the supposed treasures of gold at the earth’s centre. — But to return.

The individual man, in obeying the universal will, simply obeys his own true will ; he does not succumb to an external antagonist. He only meets in reality what was ideally prefigured in himself. His *own true being* already demanded *for* him and in his name what is exacted *from* him by the law. His rights, therefore, perfectly coincide with his duties, his true wishes with his obligations, his subjectivity with his objectivity, — he is *free*. The whole nature of man is *freedom*. It is superfluous to mention,

that lawlessness, the indulgence of momentary caprice, is not freedom, but *slavery*, — because it is the subservience of the *real* nature of man, his *reason*, to his self-estrangement, his particularities and passions. There is, in a word, slavery only where there is subordination of *mind* to *matter*.

The inevitable and natural consequences of a government which is not the incorporation of the nation's will, and whose laws are not its expressed consciousness and reason, — of a government, therefore, which does not keep pace with the development of society, — are sudden, violent, and calamitous revolutions. Man is the eternally active spirit ; his nature is reason, and therefore development. So long as society *lives*, it will be impossible to hem it in by everlasting forms, however perfect they seem.

It has been often enough insisted upon now, that, wherever there is *mind*, there can be question no longer of subservience of any kind. I repeat, whatever is mind is *absolutely egotistical*. The person is not a tool of the family or the state ; he subordinates himself to both, because in so doing he fulfils his *own* being, — because, in losing his particular self in society, he recovers his true self. The whole, society, is not something antagonistic to the individual, by which the latter is to be crushed ; the individual attains to his full pride and happiness *through* society. Just as much, then, as the end of the individual is the welfare of organized society, of the state, the end of the latter is the welfare of the individual. The state is consequently bound to provide for the *intellectual* and physical subsistence of the individuals. I could have saved myself this verbiage by simply repeating the axiom, that the purpose of all social organization is the *identification* of the individuals, so that the same blood circulates in all, because the same life animates them all. —

The practical means — the legal foreclosure of encroaching wealth in the hands of individuals, the measures to be taken for preventing the separation of labor from its products, the establishment of institutions for the relief of physical and mental destitution, &c. — do not belong here.

A purposed opposition of the will of an individual to the universal will expressed in law constitutes *crime*. The active assertion of the supremacy of the law in such a case is *punishment*. Its object is obviously no other than to break this individual will, and to reduce it to conformity with its own truth, with the universal will, — *correction* therefore, not *revenge*. In this sense, the recent theory, that punishment is the self-defence of society, though true, when properly understood, is liable to misinterpretation. All punishment ought to be *educational*. Only when the hostile will is perfectly identified with the criminal's being, when there is no possibility of correction, capital punishment is justifiable.*

To regard the state, or any phase in the organization of

* I may be indulged in a remark respecting the recent system of solitary imprisonment, which to me seems to be directly at war with the object of all punishment. The individual is to be brought back to a conformity with society, by perfectly estranging him from it! You want to re-instil into him good-will to man, to a cheerful intercourse with his human kindred, and you make him the prey of despair! You mean to prepare him again for healthy life in the social communion, and you do all in your power to deaden that life; you deprive him of every thing that can awaken a sympathy with mankind, of the means for expressing his feelings, and for listening to the kind response of his fellow. Is not the converse of man with man the principal condition for ennobling, and in this case correcting, the individual? What the consequences are we already know from experience: all mental, moral, and physical diseases, which result from a repression of the manifestations of life, — idiocy, insanity, or at least irretrievable despondency, deadly misanthropy, masturbation, &c. I state this on the authority of an excellent medical friend, whose numerous observations in this sphere are trustworthy.

society (and of nature generally), as a mechanical contrivance for certain particular purposes, to make it therefore a thing dependent upon man's *making*, a mere question of *expediency*, is an atrocity. Man is as necessarily a member of organized society as he *lives*. The state is an incorporation of the Spiritual ; in it the Spiritual realizes its eternal intentions, which indeed present themselves to the understanding as finite purposes, and which will, in the true state, be *ipso facto* fulfilled ; but it does not follow, that the meaning, the sense and validity, of the state consist in these purposes. All the socialistic schemes, on that account, are materialistic and false, — because they are schemes. Again and again it is to be said, the forms which bind society can be nothing else than the expression of the *life* of society, — they must proceed from that life ; and this, as is amply clear now, can take place only in a democracy. The socialists relapse into the old contrast between *form* and *material*. Whoever attempts to formalize the life of mankind *externally*, instead of removing the artificial obstacles which impede the life of society in *formalizing itself*, is — a despot. The more intelligent socialists admit that society is an organism ; “ But on that account,” say they, “ the members are but *parts* of the whole, and therefore entirely subordinate to it. The absolute power is society ; therefore all individuality (expressed in property, &c.) disappears. The person, the family, &c., have no validity against the state.” True, not *against* the state, nor without it, but *in* and *with* it. *In every organism all the inferior stages are preserved in their full validity, though with absolute reference to higher stages.* (See § 36.) Thus the person and family are an *essential* existence in society, though they absolutely relate to, and derive their higher authority from, the state. The members of society — persons and families — are not only *parts*, they are also the *whole*. If

person and family are ministrative to the maintenance of the state, the state is equally ministrative to the maintenance of the person and family. — Socialism is based upon so many absurdities, that it would be vain to attempt a complete refutation of them ; one or two only I will endeavour to point out. The person, as every socialist will admit, is at first, *immediately*, an egotist of physical desire. He is to renounce this egotism in favor of society. Now over this immense chasm from physical individuality to mental universality the socialist wishes to bound at one leap. There is to be no cultivation of the feelings in the quiet home of the family, no development of fraternal and filial affection, no attachment to country ; one *salto mortale* is to carry the individual from egotistical instinct to the abstraction of universality and reason. There is to be an all-embracing brotherhood in abstract reflection, but the *natural feeling*, the immediate *reality* of the relations of brother and sister are to be annulled ! There is to be absolute love of humanity, but the eternal love which man bears to man is to become the mockery of — a moment's duration ! The fire is to burn, but — the hearth is to be destroyed ! In short, there are everywhere ends without means. I trust that the statement of this is its own refutation.

Socialism is a lie in the face of nature and history ; but it is eventually harmless, and will die from the disease of its birth. There is this truth, however, in the appearance of socialism, that society is to be indeed a community, and that *all* are responsible for the sustenance of each one. Moreover, there are numerous artificial obstacles to the free evolution of society, which are to be removed ; but not by removing also the *means*, or rather *stages*, of that evolution. I, for one, despise the man who thinks life with all its wealth and ease and enjoyment worth the having, after you have robbed him of the proud

consciousness of being the guide of his own bark and the creator of his own fortune, — of the infinitude and eternity of love, — of the sacred affections of brotherly and sisterly, of parental and filial attachment, — of patriotism, — in short, of every thing that sheds its first hallowing light over the private feelings of the heart.

Mankind. — History.

§ 107. THE comprehensive mental realization of the universal Spiritual is *mankind*, and its history, to which states and nations are again related as individuals. The one principle, that the Spiritual is infinite, eternal, intensive activity, has led us to the inevitable consequence, that it exposes itself without rest or limit on a multitude of stages, and therefore under a variety of forms. We thus meet with the one divine idea in a host of nations, and in a countless succession of epochs. It is present, and present as *mind*, in each and all of them, engaged in the work of its self-production and its self-recognition: for it is eternal activity. And here again, in the immense organism of historical mankind, we find the verification of the law, — that the Spiritual preserves all the phases of its existence, from the lowest to the highest, during every period of its evolution. The Spiritual is, as it were, its own biography, headed by its full portrait in the panorama of nations. The epochs, that are *past* in the life of one nation, are *present* in that of another. The aspects succeeding each other in *time* spread themselves out before the eye in the extension of *space*. The historical cadences, which strike the ear of the thinker as the *melody* of the Spiritual, are simultaneously heard by him as collectively present in *concertant harmony*.

The source of all dependency in life is necessary co-

existence and necessary *succession*; thus in the life of mankind one epoch depends upon another and one nation upon another. The life of the Spiritual is inevitably succession and coexistence, — a revelation in time and space; and yet it is its eternal intention and purpose to reproduce itself as an absolute intensive unity. How is this reconciled? Very simply in this, that the Spiritual is a unital *activity*, and therefore essentially a *revelation*, — an unceasing reproduction of itself. The absolute endeavour of the Spiritual to evolve itself as an intensive but universal unity appears, then, externally in the progress of its life as the free play of these dependencies. *Free reciprocation of man with nature and with all mankind* is therefore the law of our spiritual vitality. Nations and states have for this reason as little right to isolate themselves as individual persons. Liberty of material and mental commerce is the true inscription on every nation's flag. It is the duty of nations, as well as of persons, to diffuse the light of mind and freedom.

It is a very common view, to regard the life of mankind as a web of chance and adventure, — its history as an incoherent tale, — the whole as a confusion of efforts and failures, of hopes and disappointments, whose final boon is despondency, and whose product misery and woe. The scene of history is considered as a gloomy ocean, lit up by no star but the flitting meteors of ambition and deceit, enlivened by no breeze but the storm of passion, strewn therefore with nothing but wrecks, no other hope being left to the individual mariner, than, regardless of the general fate, to grasp the first plank that presents itself.

Views such as the above admit of no other refutation here than the simple statement, that the events of history are the events of one connected life, — the life of the Spiritual. Usually this is not altogether denied (except by some materialists); a *providence* is admitted; but this

providence is regarded as something *accruing* to the world and history, not *resident in it*. In a word, the world and its history are looked upon as a sphere of finitudes, altogether distinct from the Infinite, which latter only *deigns* to support the former. It is properly unnecessary here to rebut this assumption, as I have amply proved (in the "Grounds and Positions") that neither the Finite nor the Infinite is any thing by itself, but that they respectively exist *in* and *through* the other; that the Infinite, the Spiritual, *must*, from its nature, distinguish itself in itself, whence all the material differences in time and space arise, and that the Finite *must* resolve itself and revert to the absolute Spiritual. But I will dwell a moment still upon the palpable and irremovable contradictions of this separation of the Infinite from the Finite, of providence from history, of the Deity from the Universe. If the Finite exist as extraneous, accidental to the Infinite, — if the latter be complete and insular in itself, — then the Finite and Infinite are in every respect *two*; the one *begins* where the other *ends*. One, therefore, is then the *absolute limit* of the other; instead of an Infinite and Finite, you have consequently *two finitudes*; and on the other hand, taking it for granted, that the Finite *is* any thing but what it is *in* the Infinite, that it has any existence, however chaotic and lawless, but that *in virtue* of the Infinite, — but that *belonging to and being* the Infinite, — that it exists otherwise than *as* the Infinite, you have two existences in themselves, you make the Finite infinite, you have *two infinitudes*!! You therefore have, not one absolute principle, but *two*, — not one Deity, but two Deities, — you have absolute war, irreconcilable contradiction; the only unital Absolute you have is an absolute — absurdity.

It is evident from this, that the Deity is not a personage who now and then stretches his hand towards the car

of history, and shifts it in another direction ; nor an artisan, who amuses himself by carving a curious toy, which we afterwards call nature, and whose droll gyrations we term history ; nor a quaint alchemist, who occasionally walks into his rusty laboratory, the Universe, and mumbles a formula, and conjures up a bubble ; nor a despot, who condescends to say, “ Car tel est notre plaisir ” ;—the life, the being, the essence, the existence of the eternal Spiritual is its activity. No act, which is not essential to the Spiritual, —which the Spiritual is not. And you can conceive no existence which is not *in* the Spiritual, which is not a phase of its universal vitality.

History is therefore the life of the absolute Spiritual, and its events are the manifestations in which the Spiritual comes to the knowledge, the identification, the absolute possession of itself, in its eternal self-evolution or origination. And all those who deny this — who assert that nature or history has any other existence, and that their minutest events have any other reality, than that of the Spiritual — deny the Spiritual itself, and are guilty of atheism and blasphemy, however pious their mien, and however religious their garb.

From this the guiding principles in history readily flow. All life is a progress ; the absolute life in history, then, is absolute progress. All life is a change of form, an origination and evanescence of phases, in which, nevertheless, there is an ideal constant ; the Spiritual therefore bodies itself forth in varying phases, and destroys them again ; — but it, the Spiritual, remains, and in it the phase, not merely as a relict adumbration, but as an ideality, with which the Spiritual, as it were, enriches itself. All the phases of life are prefigured in the origin, and every succeeding phase is immediately contained in and produced by the preceding one ; — so in universal life.

It is not my object, and it is altogether above my

ability, to furnish even a faint sketch of the progress of history in accordance with the foregoing principles. I shall attempt only to make a few general suggestions. — The evolutions of the Spiritual in history are in every respect those of the mind. The first immediate union of the mind with its natural organism presents itself in history as an immediate union of man with nature, where the Spiritual is yet, so to speak, the *flower* of nature ; as such we behold it on its acme (I point out only the heights in each epoch) in Greece. Mental life was there as yet sensual, — the powers of life were objects of direct perception, the serene gods dwelling on Olympus. The Highest, the object of all aspiration, the fulfilment of all truth, was immediately present to the Grecians in the form of the Beautiful, in the forms of classic art, which represented the perfect identity of the Divine with natural being, — the beau-ideal of the human form. The Grecian knew no despondency, no longing, no sentimentality, no opposition between the Individual and Universal ; the same life lived in all. Hence, since the Grecian epoch, we nowhere meet with individualities so well balanced on their own centre of gravity, so perfect (perfect as they could be in that inferior phase), so full of equable enjoyment and happiness. But the *depths* of the Infinite, of the Spiritual, were not there in actuality ; they only hovered over them, in their dark bodings, as the sinister form of fate, which became the ruling power of their tragedies. These depths mastered their consciousness in philosophy, and reduced the Olympic divinities to a shadow. The destiny was consummated ; the Grecians struggled, but they perished, and the beauty of Grecian life with them. Rome is nothing but the epoch of transition, — the ferment of the elements that had been scattered by the fall of Olympus. Beautiful, classic individuality is no longer the principle ; the Grecian gods in Rome are only recollec-

tions and formulæ. The vitality of Rome is an abstraction, — *national power*, in which all individualities are lost. Christianity appeared, and the *internal* life of the Spiritual, the “Beyond” of immediate nature, became the soul of life. Happiness became an aspiration, enjoyment a longing, the delight of existence an infinite grief; for the truth of nature was beyond nature, not its present being. True existence became a mortification, unwearied asceticism. Nature was a stranger to divinity, — nothing but a *fabric*, ministering to the base wants of man.* For the Grecians nature (and all existences) had been an *unconscious growth*, — for the Christian it was a structure designed by consciousness for particular purposes; the truth is, of course, the unity of both views, — a self-organization depending upon the laws of mind and consciousness. Christianity evolved the whole significance of life; it revealed the immeasurable expanse of feeling, the boundless exaltation of thought, the infinite power of love, the eternal craving of spiritual redemption, — all the potentialities of the heart and mind; but it detached them from nature and life, — it cast them like shadows in the distance. It separated the activity from its reward, the struggle from its peace (which, from the nature of the Spiritual, is but *in* the struggle), the labor from the product. History presents nothing nobler, nothing greater, nothing *truer*, than Christianity. In the Christian epoch, *classic art, the actual presence of divinity in nature*, became *romantic art, the painful longing for divinity*. Grecian beauty was there, but with the expression of inadequacy to its internal consciousness, with the *grief* of

* I speak only of that which lies in the fundamental idea of the epoch; in every epoch the following one prepares itself, so that here we gradually find also the recognition of nature. But Christianity, as such, is the principle of *perfect secession* from material nature.

its natural existence, with an infinite *craving*, on its countenance.

During the epochs when Christianity culminated, — during the Middle Ages, — the Spiritual was present only *in and for faith*, — not for *reason*; and it could not be present for this, for reason was then nothing more than the *understanding*, to which the Infinite is inaccessible. — The Middle Ages were *free*, — perfect equality reigned at the beautiful time when the church was the state. The true being of man lay beyond this life, and there all differences were equalized. The serf, who saw his lord kneeling with him at the same altar and at the same confessional, who beheld him voluntarily doffing the knightly armor, and humbling himself to the lowest level in the monastery, felt that there was no *real* distinction. The greater the suffering here, the greater the enjoyment hereafter.

I have said, that Christianity in the ages of faith was a truth, and the sublimest truth, which history offers; I say so again. Every earnest man is essentially a Christian, — this epoch of the mind lives within him. But as an actual epoch, the noble days of the Middle Ages, with their benevolence, their chivalry, their romance, are gone by, and cannot and will not again be summoned up. The Spiritual never retraces its steps. We may try to stem the torrent of advance, — it carries us onward. The boundless spiritual resources of the Middle Ages continue in the life of the Spiritual, but this formalizes itself anew. The Christian epoch was that of division, we have seen; creation and the Creator, the Spiritual and the Material, faith and the understanding, labor and thought, were utterly distinct. We see this in the contrast between the classes doomed to toil and those devoting themselves to silent contemplation and religious thought in perfect seclusion from the world. That in our times the reconciliation is

preparing, if not effecting itself, cannot be doubted. Science and life, thought and action, are no longer distant from each other. The man of learning is not a recluse now, nor the man of labor a mere machine. — May in our times the infinite meaning of Christianity infuse itself into actuality, and verify and exhibit all its powers in life, revoking the serene individualities of Greece with all their ancient classic perfection, but with superior, because *significant*, beauty! May the coming age bring us a *mental, humanitariān* endæmonism, and a *universal* liberty rivaling the *sensual, national* endæmonism of the Grecians with their limited freedom! The epoch of Oriental life, with its vague pantheism, bears the same relation to the Grecian epoch as Christianity to the era which is beginning to dawn upon us. Hence the affinity of symbolic art in the East to art in the Middle Ages, and the romantic elements in Oriental poetry, which have recently been so much explored by the German poets of the romantic school. — Protestantism is to Catholicity what Rome was to Greece.

Just as the peculiar self-consciousness of the Spiritual, at each of its epochs, pronounces itself in art, religion, and government, so it is transfigured in philosophy and science. These are but reflexes of the inner life, the religion, of the times, and therefore also present the rational development of the mind. I cannot refrain from adverting here to a very outrageous assertion of certain “philosophes,” according to which the faith of former ages, with its forms and imaginings, was the artful device of a few impostors! — The universal consciousness of mankind never was a lie! Impositions have no doubt been practised; but they never determined the belief of mankind. Even at the present moment, the minds of the religious world are not held captive by an imposture. They are bound by the greatest, the holiest reality they can possess,

by the infinitude of their being and destiny. Nor were mankind cheated by an illusion. The saints and martyrs did not live and die for an illusory shadow; they died for the divinity within them. "L'homme dupe" is a fit subject for comedy and derision; but "l'humanité dupe" has never existed.

An analogous assertion, which is not a jot the better, is, that all truths and mental boons were at times accidentally and externally communicated to mankind by a few chosen individuals, without the fortunate accident of whose appearance mankind would have continued to grovel in mist and misery. Certainly the spiritual sun of the world, at the break of each new historical day, gilds lofty eminences sooner than low valleys, — but only because it is on the point of rising above the general horizon; certainly the consciousness of every higher life will awaken first in genial minds, but precisely because this life has already filled the bosom of all. Such genial men — and poets especially are to be numbered among them — are but the foci in which the scattered rays of spiritual consciousness in mankind concentrate themselves, and are radiated forth again with increased brilliancy. — The spiritual life of mankind is not the mere *aggregate* of the mental acquirements of individuals, just as the work of history is not the mere sum of individual deeds. To maintain this would be the same as to maintain that a given quantity of lines and colors thrown together at random form a distinct painting. The Spiritual achieves its revelation in and by means of individuals; its great designs infuse themselves into the private purposes, its infinite aspirations into the passions, of men; but, as some one has well said, the eternal reason of the Spiritual is the *warp* of history, of which the particular acts and thoughts and passions of so-called historical persons are but the *woof*.

CONSEQUENCES.

NATURE is a revelation of the mind, and the mind the revelation of nature.

The essence of both is an infinite activity;—nature an infinitely *extensive*, and the mind an infinitely *intensive* activity. The only absolute repose is the freedom of this activity. No quietism,—no quietistic happiness. The greatest of all miseries is *stagnation*.

Truth is the whole unital activity of the Spiritual in its evolution.

Beauty is the adequate incorporation of the Spiritual in material, external forms. But this is vague; the Spiritual is present on various stages, which, however, all contain the whole Spiritual, either as a form embodying the entire development of the Spiritual, or as an ideal-ity, an aspiration towards it. I therefore call *beautiful* either the representation of the highest, completest spirituality,—in *the human form*, (classic beauty),—or the representation of other objects of nature so that they exhibit an absolute reference to the highest spirituality, foreshadow it. In other words: the Beautiful exhibits either the full existence *of* the Spiritual, or an existence as absolutely *in* the Spiritual; it either *expresses* absolute humanity, or *symbolizes* it. But the essence of man cannot be expressed in an individual form; for this it would be necessary to embody the whole spiritual activity there, which is impossible. We are thus led to the *Significant* in art,—to *romantic* and *historical* beauty. Still, in all cases, the whole spiritual life of the Universe figures itself in the concrete, particular form of the Beautiful.—Now the exhibition may be for either of the two senses of individuality in man, or directly for the mind. We thus have *plastic art* and *painting*, *music* and *poetry*. In so

far as in general there can be question of dignity in the sphere of free art, the succession will be the following: music expresses the aspiration after distinct form, which is actually exhibited in sculpture, &c., and painting; and plastic art and painting express the aspiration after *significance*, which is exhibited in *poetry*.

The *Good* is the active realization of the Spiritual in nature, or the realization of nature's true purposes. *Evil* is simply disease, and, according to the definition of disease given, a stagnation of the mind on an inferior stage. Evil is the engagement of the individual in his private designs and passions, without their subordination to his general, rational nature, — or is isolation in egotistical being, without fusion with humanitarian and historical universality.

Truth, beauty, and good, united in an individual being, we call its destiny, — here in particular *man's destiny*, which is to guide his life and embraces his rights and duties. The destiny of a being is nothing more than the principle in virtue of which it exists, its inner nature. All essential finitudes (to which also animals belong) have their nature in *necessity*; man in *freedom*. The essence, the nature, of man is reason, and his proper destiny therefore is, to make his whole existence reasonable. No being can be destined for any thing which is not founded upon its nature; no being can be directed in its life by a mere external attraction. When there appears to be such an attraction, as, for instance, when animals are irresistibly drawn to an external object, the truth is, that they are complementary, and had in them an ideality which was not realized, — that they were *urged* by a craving, *impelled*, as language appropriately expresses it, by instinct, — *driven* therefore, not *drawn*. Now, since the whole nature of man (in so far as he is *man*) is *reason*, which presupposes consciousness, man can have no destiny which is

not purely dictated by his reason. Let us suppose, for a moment, that man could be otherwise determined, that an extrinsic communication of truth for the guidance of his life could be made to him, which militated against or was incomprehensible by his reason, and therefore demanded a perfect disavowal of the *mere* results of his own reasoning. The communication would be after all a communication to *him*, to *reasonable man*, such as suited *his* receptivity. The communication is therefore impossible, except in so far as the *threads of attachment* for the truth communicated are already within him; — as *the communicated truth is already ideally contained in his being, which is reason*, — as *the truth is in consequence perfectly reasonable*, and hence *perfectly comprehensible*. — All adoption of truth is obviously a *recognition* of truth; otherwise it is no longer an adoption of TRUTH. But what is *recognition of truth*? Evidently *an identification with the mind, with reason*. When I recognize any thing as truth, I find that it *perfectly* agrees with the laws of my mind, or with the *mind itself*. Nothing, then, can be communicated to the mind, which was not previously *in the mind*; *no being can appropriate to itself, or have imparted to it, more than itself*. All apparent external revelation is but an internal self-recognition; all communications are but *evolutions* of the mind.

Under another point of view the same presents itself as strikingly. Several pretended truths, but which contradict each other, are held forth to me. Both come with the strength of assertion, and insist upon their implicit adoption. Now, as they are contradictory, I must reject the one and adopt the other. It is perhaps a question of life and death, — my salvation depends upon it. The choice, then, cannot be arbitrary; it must be made with reference to *me*, — to my true being, reason; it must be a *reasonable choice*. The reason within me, then, is the

judge of the assertion, — the *summa instantia* of all communications, — and the agreement with it is the criterion. But agreement in the spiritual sense cannot be any thing else than identity; what reason pronounces as truth is consequently nothing else than — reason itself.

The verification of truths by external miraculous phenomena is a logical circle, and makes *matter* a criterion for *mind*, subordinates the *essence* to the *phenomenon*. The mind, reason, the Spiritual, is the Highest, and is absolutely incapable of deriving strength from another authority. For the authority must be superior to the thing authorized, must it not? Now it has been amply proved, that the Spiritual — mind, reason — is the reality of every thing, outward existence being only the *appearance*. Now a *spirituality* is to derive its force and authority from a *phenomenality*! — the reality is subordinated to appearance! — But I have said that this alleged verification is a logical circle. *For, first, you substantiate the Spiritual by a phenomenon.* But the phenomena are again several and contradictory; you must consequently distinguish the real from the false one. This you can do only by *reasoning* upon them; *you then conversely substantiate the phenomenon by reason, by the Spiritual.* — The greatest contradiction in this appears, when the phenomenon is to prove something which is directly at war with reason. I see the phenomenon; from this I am to *infer* — and no one can perform an operation of the mind, no one can *infer*, without using *reason* to the best of his power — that such and such is true. I am consequently to *reason* upon the phenomenon, in order to be convinced by it; *but the whole force, the whole bearing, of the phenomenon is, to annul the validity of reason.* This is, very plainly, like destroying an instrument for the purpose of performing a work which can be done *only* by means of that instrument, — or like assassinating an individual for the purpose of saving his life!

Moreover, a phenomenon which is not perfectly reasonable is impossible. Where is the agency producing such a phenomenon ? Is it the Material ? The Material is impotent ; it is nothing, but in virtue of the Spiritual. The Spiritual then ? But the Spiritual can produce nothing but itself, and, since it is essentially and thoroughly reason, nothing but reason. Nothing is reason, which you cannot *think*. And can you think, e. g., a non-gravitating gravity ? or an essentially active reason, which acts unreasonably, to prove itself to be eternal reason ? I cannot, any more than I can a quadrangular triangle.

In face of the truly thinking reader, I could have saved myself all these trite disquisitions by one question : since the phenomenon has an extrinsic, symbolical import and meaning, what *can* form the principle of attachment between the meaning and the symbol ?

PART II.

THE

PHILOSOPHY OF NATURE,

IN SOME

OF ITS MOST IMPORTANT DEVELOPMENTS
AMONG THE GERMANS.

THE views constituting the mental life of any individual are in all cases to a greater or less degree a reflex of the spiritual tendencies of his age and sphere; his thoughts are a reproduction, more or less perfect and thorough, of the intellectual labors with which others before him had tasked themselves. Thus the few general outlines given in our First Part, although they are not a *product* of German philosophy, presuppose the philosophy of Schelling and Hegel as their precedent; the reflections which they delineate have in many instances been called forth by its study, and refer to it as to their complement. — Man in general corresponds with his true vocation only in so far as he reiterates within his individuality the development of his race, and strives to place himself on the heights of his century. The intelligent, sincere, thinking man is truly the deputy of his age, inspired by its revelations and warmed by its emotions. His endeavour, therefore, will be, not in unreserved condemnation to oppose its tendencies, but to understand, to interpret, to appre-

ciate, and, if possible, to stabilize them. Prompted by the belief, that every true, general, and lasting aspiration of man is the dawning consciousness of a high and infinite destiny, he will observe the struggles around him, seek the magnetic pole by whose attraction their uncertain oscillatory movements are actuated, and endeavour to hear an articulate voice even in the storms of faction and dissidence. There is an intimate ideal connection between the philosophical agitations in Germany, and the universal, energetic social progress of the present, — and both are vehemently decried. What is the spirit whose manifestations we behold in present phenomena and events ? — The exponent of our age, which perhaps contains the full potentiality of life, is the *recognition of immanent divine energy in every vital form and development*. The organizations of nature and society, such as they heretofore actually existed, and as they were reflectively idealized in science, religion, politics, and philosophy, formed an apparently irreconcilable antithesis, — the dualism of *Mind* and *Matter*, of *Force* and *Inertia*, of the *Deity* and the *Universe*. We see that antithesis exhibited, its constituent principles incorporated, in two great and distinct bodies, into which mankind were divided ; the one the impersonation of pure *intelligence* and therefore the oracle of the law, the other the representative of *brute obedient matter : rulers* (intellectual and physical) and their *subjects*. Our age reconciles this antithesis ; it seeks to spiritualize the Material, and realize the Spiritual. On purely philosophical grounds, we find that the terms “ spirit ” and “ material body,” in the sense of substances *radically isolated*, which in former times often ruled the entire domain of science, have gradually become synonymous with “ spectre ” and “ corpse.” — The watchword of our times is *life* ; and wherever this is found, whether in the grand organizations of the Universe,

or in the minor organisms of nature, it gazes upon man with eyes radiant with significance, and speaks to him the language of eternal truth. The divinity of power is at present sought, not in the providential delegation of the king, but in the intellectual being of man. No legislator, directly authorized from on high, now meets with a ready acknowledgment of his absolute sway ; we no longer listen to the word of command from without, but to the voice of the Deity within. *Vox populi, vox Dei.*

The same spirit may be discovered in the removal of the barriers between science and practical life. The time is nearly gone by, when the solitary student grew wan in the barren seclusion of his chamber, whilst the cheek of the brutalized laborer was tanned by the rays of a sun which scorched without enlightening him. Life is on the eve of becoming, in a slight degree at least, the reality of thought, — the Actual to exhibit itself as an embodied idea. Science ceases to be the paraphrase of bodiless fancies, and to waste its energies in deciphering corrupt translations of the great original which environs us in the guise of living nature. The science of nature is the science of our era. It is needless here to point out a verification of this, which is the object of daily observation for every one of us ; who has not felt conscious of it, while enjoying the “annihilation of space and time,” when he was transported with a rapidity next to that of sound on one of our American railroads, his eye at the same time directed to the wires of the electro-magnetic telegraph, which at that moment perchance winged a thought onward literally with the swiftness of the lightning’s flash ? Ay, the peace between the Ideal and Real is being concluded ; the shifting phenomena of the material world reveal to our earnest gaze, with ever-increasing distinctness, not the energy only, but the *life*, of an absolute intelligence.

In the social sphere, we see that the promise of a world beyond, in which the discrepancies of temporal existence are to vanish, in which the poet's cravings are to be satisfied, though it will ever be the cheerful hope of the earnest man, of the man of religious joy, can no longer appease the demand and quell the struggle for present enjoyment. The assurance, that the discords of this world are to be *silent* in a better one, is not accepted as an indemnification and a retrieve ; these discords are to become *accord* here, — to resolve themselves *now* into harmony. A Sunday of uninterrupted, stagnant inactivity cannot compensate for the brutal, unmitigated toils of the preceding week ; the descent of heaven upon earth, the consecration of every day of labor as a legitimate Sunday, is the great expectancy of our generation. These hopes, as conceived by the mass, will not be fulfilled ; but they are the materialistic expression of existing tendencies, which, after all, point to a truth.

Man, it has ever been asserted, is an image of the Deity. We have seen in the First Part, that not only in nature absolute rest is nowhere to be met with, that motion is found everywhere, but that likewise the essence of the Deity is not absolute quietude, but to be conceived as an infinite creative energy, which constitutes at once divine being and divine bliss. Similarly the happiness of man awaits him in his activity only, inasmuch as activity is his nature, his being. The prayer of our time, then, is for the sanctification of labor through the benediction of thought, — for the prismatic hues of actuality under the irradiation of that sun whose dazzling light hitherto but intermitted a stupefying darkness.

There was inevitably an irremovable chasm between a God of eternal repose and a world of eternal commotion ; the reconciliation of the one with the other, therefore, must needs remain a mystery. It is easily seen how the

application of such a view to the nature and energy of man led to the despair of all healthy and actual enjoyment. The relation of man to nature was casual and arbitrary, just as that of God to the Universe was completely factitious. Man's life alternated between a slavish subservience to the material world around him and a total alienation from it. He found himself at one time overwhelmed by the weight of antagonist matter, and at another vanishing in his own blank self, — shrouded in the nothingness of his being ; whereas it was his destiny to develop the latter, his being, by reciprocation with the former, with nature, — to awaken his slumbering faculties into life by contact with his environment, in turn infusing into this the vitality of his intellect and stamping it with the impress of thought. Nature was an *obstacle*, not a medium for life. — That human existence beheld under such an aspect must end in contradiction, in non-existence, is obvious. The world before us, according to very prevalent views in previous ages, had not even the value of a shadow of the world above ; and as a necessary consequence, we see the otherwise noble asceticism of seclusive institutions, in which every thing actual was virtually annihilated. Another world was made not merely the complement of this, but the denominator, as it were, in the fraction of existence ; — that denominator being infinite, the numerator became a matter of utter indifference, the resultant value being in all cases zero. The socialistic theories of our days, the quasi counterpart of the above, have inverted the process ; they have cancelled that denominator, reduced it to zero, thus conferring upon the symbol of temporal life the value of infinitude. It is remarkable how nearly the practical results yielded in both instances coincide in form ; equality in either case, whether society be constructed on the plans of a Pascal or a Fourier. For all difference pre-

supposes a determinate finitude ; at the two vanishing points of this, absolute equality holds its reign.

The above touches will suffice to sketch the general features in the physiognomical expression of our times ; it would be the next requisite to show what are the emotions there portrayed, the pulsations of the heart there recorded, the thoughts and reflections there depicted. In other words : a survey of the actual events of our time and of that immediately preceding it, together with a rehearsal of its poetic utterance, would point out to us the true bearings of the phenomena that characterize it, and prepare us for an entrance upon the study of some of its philosophical enunciations. It is intended here simply to make an inquiry into the progress and results of some phases in recent German philosophy. The transition from the regions of ideal abstraction to the sphere of life and reality, which we have designated as the motto to the title-page of our days' history, is there mentally forecast or repeated, — preconceived in thought, or sanctioned by subsequent reflection. Be it, then, that we regard this philosophy as the germ or the fruit of the Actual, — as its genius with the prophetic or retrospective gaze : in both cases it stands as its intellectual configuration, accompanies it as its spiritual correlative, and as such merits all our attention.

KANT'S CRITIQUE OF PURE REASON.

THE problem of Mankind during all ages has been, to consummate the marriage between Mind and Matter. To connect God with the Universe, to trace the recorded energy of the former (as Providence), in the movements, the phenomena, of the latter, is the mysterious endeavour of contemplative *Religion*. Her immediate offspring, *Morality*, similarly strives to enforce, so to speak, the providential presidency of the soul over bodily life, to convert action into a faithful transcript of thought. *Philosophy*, in fine, confronts the organized intelligence of this world with that world itself, the subjective mind with the objective material, and searches for the absolute correspondence of the one with the other. *Optimism* thus becomes the aim of speculative Religion, *absolute virtue* that of Morality, and *absolute certainty* that of Philosophy. The preconceived notion, however, that the two principles are entirely distinct, and that one of them at least is in itself perfect, made the required interpenetration impossible. Despair was the upshot, and we see it appearing, in Religion, as an annihilating depreciation of this world, in Morality as the absence of all merit in human actions, and the exclusive importance of grace (unequivocally averred by Luther), and in Philosophy as skepticism. The consciousness of this result, that absolute certainty is impossible, broke forth in Kant. His chief

merit lies in his courage ; he faced the spectre from which philosophy had ever recoiled.

Since a clear view of this relation will determine the intelligibility of my future remarks, I shall dwell upon it a moment longer. — When the religious optimist sought to bring this world of “contradiction and war” into conformity with a God all-perfect in being, in action, and therefore in creation, — when the moralist conceived his state of absolute sanctity, — when the philosopher wished to intellectually assimilate the objects of the external world, to make them commensurable with, adequate to, his mind, and thereby apprehensible by the latter, when he strove to convert things into ideas, — what was the procedure they adopted ? They regarded the *Ideal* — the Deity, the Law, the Intellect — as a mere form, a mere construction to be put upon inert matter ; they made this Ideal the baptismal fount, into which they immersed the Material for the purpose of its nobilitation. Nay, more, they first denied, annihilated, “mortified” the material world, then substituted an ideal one, and now imagined they had spiritualized the former. But is this in reality more than an illusion, more than a mere gloss imparted to the rude Material ? Have I resolved the contradictions of one world, by merely asserting that *beside* or *beyond* it there is another, a better one ?

Again : “a grace from above sanctifies the individual, who in himself is nothing.” By first annihilating and then pretending to sanctify, have I really ennobled that individual ? I have placed the Ideal, Divine, in his stead, but not changed him ; for that which is naught admits of no change ; that which is incapable of giving is equally so of receiving. Furthermore : the philosopher shapes the external world conformably with his reason, stamps it with the impress of intelligence, subjects brute matter to the empire of form. Now what does matter actually

receive in this accession of form? The answer is obvious : nothing but *limits*, — limits, at which it ceases to be at all. But wherever it yet is, is it any thing else than matter?

The philosophy of Kant has already been adverted to as the great avowal of the above contradiction, as the consciousness of this malady of all intelligence. Kant was the last of his race, and, like every dying hero representing a generation, he fought the whole battle of Reason and Reality anew. Kant closed the accounts of an entire period in philosophy, — he literally examined its conscience on the eve of its expiration. Although I do not include his philosophy in that series which falls under our immediate consideration, and therefore do not intend to write its history, yet, as it forms the stepping-stone to recent philosophy, as it is the fermentation where the germ of the latter takes its origin, I shall not content myself with glancing at the results at which Kant arrived, but follow him in the paths that led him thither. The "Critique of Pure Reason," though it nowise contains the sought-for axiom of the philosophy of the present, is nevertheless the cabalistic formula that has conjured it up. To understand this, therefore, we must study Kant. Modern philosophy is a reconciliation; to appreciate it we must first be present at the quarrel.

The "spirit of evil," which in some of the older theologians and philosophers had started the question of the possibility of primordial creation and its continuance (providence), — of the alliance between God and the Universe, — which had tortured others with the doubt of the reality of virtue, roused Kant to the query : *Is there any truth in the asserted relation between my subjective intelligence and the objective world?* is there any truth, therefore, in the offspring of that relation, which we term knowledge of things and their real nature? His answer

was : We cannot say ; *certainty*, however, there is not. It will presently appear (in verification of the hints already given) that that intelligence in all its modes of manifestation was taken by him as the mere mathematical formulæ by which realities are construed, as a mere abstract mould in which external objects are shaped. We have, then, as the starting-point, the old antithesis between *form* and *matter*. Now this form, the principle of intelligence, the mind, according to Kant, shows itself active on three different stages, and, when viewed as a whole, is seen under a threefold aspect : as *Intuition*, as *Understanding*, and as *Reason*. They are but the "mental faculties" of older psychologists ; no derivation on the part of Kant justifies the division. In the first, in *Intuition*, the mind is only the passive recipient of external objects, whence Kant also terms it *receptivity* ; in the second, in the *Understanding*, the mind, as it were, elaborates thoughts out of this "raw material," digests the crude aliment, subjects it to its own laws. The first is the process of *nutrition*, the second analogous to that of *assimilation*. It is evident that the latter is dependent upon the former, and unable to act without it. To its *independent* activity the mind attains only in *Reason*, the faculty which evolves *free, absolute, necessary ideas*.

Before I proceed with Kant to the scrutiny of each of these three faculties, I must mention a distinction which is premised in the Introduction to the "Critique of Pure Reason." In passing a judgment on any subject, in enouncing our knowledge concerning it, we may first analyze that subject, and attach to it the result of the analysis as its predicate, in which case the judgment will be *analytical*. In saying, "All bodies are extended," I only educe from the body that which constitutes its nature, and place it beside it ; the nature of the body is extension. I have added nothing new to the subject ; I have only

brought to light its inherent properties ; my judgment is an *analytical* one. When, on the contrary, I connect a subject with a predicate *not* contained in its definition, when I put together two things perfectly distinct, the judgment is called *synthetical*. An instance of it is the assertion, "All bodies are heavy," the predicate *heavy* not being contained in the subject *body* (which is sufficiently defined by its extension). "Analytical judgments only *explain*, synthetical judgments *amplify*";* in the former the predicate is *educed* from the subject, in the latter it is *adduced*. The certainty of analytical judgments is unimpeachable ; the predicate is, so to speak, only *born* from the subject, and the two cohere by their umbilical cord. I have added nothing to the subject, and therefore have nothing to justify. But *synthetical* judgments combine two things essentially distinct, *heterogeneous*, such as, e. g., cause and effect ; upon what is the necessity of their coherence founded ? what constitutes the bond of union between them ?

Though the analytical form may furnish the material for judgments in general, it is evident that all knowledge of the external world must depend upon *synthesis*, inasmuch as that knowledge contains two elements, the *Formal* and the *Material*, the *subject knowing* and the *object known*. This, then, brings us to the investigation of the three faculties.

I. INTUITION.

THIS might be quaintly, but not inaptly, defined, the faculty of *beholding* external objects. The etymology of the English word "to behold" would at once suggest the

* Kritik der reinen Vernunft, Rosenkranz's edition, p. 21.

circumstance, that Kant considers the mind here only as an instrument with which the object is seized. For the capacity of the mind as intuition we have the formulas of *time* and *space*,—abstract *succession* and abstract *coexistence*,—the *beside* and the *after* isolated.* These are the two forms in which all external objects are received, which always affect and accompany them, such as they *appear to us*, without, however, as necessary attributes belonging to them, such as they exist by themselves (*per se*). These forms *preëxist* in the mind, and are *not* derived from experimental observation. For the possibility of that observation depends upon the previous existence of time and space ; moreover, we are unable to conceive the *non-existence* of the latter, or the existence of objects without them, although there is no difficulty in the conception of time and space without a filling object. The annihilation of all objects, which can be easily imagined, still leaves in the mind the notions of time and space, &c.

Notwithstanding the nonentity of time and space by themselves, they have reality for us as forms of intuition, and we possess, as corresponding to one, to space, the outer senses of *sight* and *touch*, and to the other, to *time*, the inner sense of *hearing*. The one may be represented *geometrically*, by diagrams, and the other *arithmetically*, by numbers. Geometry and Arithmetic (taken in its generality) are therefore sciences absolutely certain, because their elements *exist in the mind*,—because they are truly *formal* sciences. They have no need of any thing external for their development.

* It is of much significance, that subsequently (in the forms of transcendental imagination) they are both reduced to *one*, to *time*. *Extension* is, as it were, a petrified *succession*; *space* = *dead time*. That is, perhaps, a daring metaphor; but as I have no room for protracted metaphysical disquisitions, it may answer to express the relation.

II. UNDERSTANDING.

AFTER the object has been seized upon, it is the mind's next concern to make it *its own*. *Perceptions* must be followed by *apperceptions*. I have *gazed* upon the object; I must now *see* it.* The conditions under which objects are *received* are time and space; under what conditions may they be *thought*, appropriated to the thinking subject? To be truly appropriated, they must be subjected to the mind's laws, they must be *assimilated*, for that only is my own which is *part of myself*. What are those laws,—the laws of the *Understanding*? What is the architectural plan on which their arrangement is to take place? That plan must again be contained in the *mind*, and accordingly we find four *pure ideas*, or rather *forms*, of the Understanding, denominated by Kant the *categories*. When the result of the intuition is presented to the Understanding, this decides,

a.) As to its QUANTITY,—whether it be a *unity*, or a *plurality* (several), or a *totality* (comprising all of its kind);

b.) As to its QUALITY,—whether it wholly *agree* or wholly *disagree*, or *partly agree* or *disagree* with a determination anticipated;

c.) As to its RELATION,—whether it stand as a *substance*, or as an *attribute*,—which two have the relation of *inherence*,—of *cause* or *effect*,—relation of *depend-*

* To use Kant's own words: "All *intuitions* depend upon *affections* [of the mind], all *conceptions* [better, perhaps, *thoughts*] of the *Understanding* upon *functions*. *Function* is the unity of the act of arranging different notions under a common one. *Conceptions* [*thoughts*], therefore, depend upon the *spontaneous activity* [*spontaneity*] of the thinking faculty, just as the product of intuition on the receptivity of the impressions." — Kritik der reinen Vernunft, p. 69.

ence, — or of a thing merely *coherent* with another, — relation of *mutual action* (*action* and *reaction*);

d.) As to its **MODE OF EXISTENCE, MODALITY**, — whether its existence be *possible* or *impossible*, — *actual* or *not actual*, — *necessary* or *contingent* (accidental).

The judgments resulting, therefore, will be (referring to the above),

- a.) *individual*, or *particular*, or *universal* ;
- b.) *affirmative*, or *negative*, or *limitative* ;
- c.) *categorical*, or *hypothetical*, or *disjunctive* ;
- d.) *problematical*, or *assertory*, or *apodictical* (*necessary*).

When tabulated, the *categories*, with their respective triple integrants (subcategories) and the corresponding judgments, stand thus : —

CATEGORIES.

QUANTITY.	QUALITY.	RELATION.	MODALITY.
<i>Subcategories — Judgments.</i>	<i>Subcategories — Judgments.</i>	<i>Subcategories — Judgments.</i>	<i>Subcategories — Judgments.</i>
α) Unity, . . . Individual.	Reality, . . . Affirmative.	Substantiality { (Attribute), }	Possibility, { Impossibility, }
β) Plurality, . . Particular.	Negation, . . . Negative.	Causality and { dependence, }	Existence, { Non-existence, }
γ) Universality { (Totality), }	Limitation, . . . Limitative.	Coherence with { mutual action, }	Necessity, { Contingence, }
			A assertory. } A podictical. }

It is remarkable, that in the trinity of the subcategories the last is always the combination of the first two, or, technically speaking, that (α), (β), and (γ) are to each other as *thesis*, *antithesis*, and *synthesis*. Plurality integrating a Unity constitutes Totality ; Reality with Negation forms Limitation, &c.

The categories are the *framework* of the Understanding, in which the result of Intuition, the *material* of the Understanding, is encased. Again, our old antithesis between *form* and *matter*. Neither of these two elements *alone* has any reality; the categories without the entering material are *void*, the material without the regulating categories is a *shapeless, blind mass*. To constitute knowledge, the two ought to interpenetrate, or at least a synthesis of the two should be effected. But this cannot be effected in virtue of their inherent nature ; there can be no mutual *inclusion*, because they are *heterogeneous*, — they *exclude* each other. The only resource, then, lies in *mediation*. The sphere of that mediation is *self-consciousness* ; there I find pure *intuitions* and pure forms of the Understanding, the *categories* ; these can be united. The former are *subjective*, — they are only *impressions* ; the latter are *subjective* likewise, — they are *ideal forms*.* Being, then, both subjective, they may be compounded ; but being, for the same reason, both *unreal*, the compound to which they give rise will also be *unreal*. It will be an *image* of the object, — not its *copy* ; and the faculty producing it is termed transcendental *imagination*. Kant

* Kant afterwards discriminates between *forms* of Intuition (time and space) and *rules* of the Understanding (the categories). They are, however, all equally *forms*. — Moreover, the Understanding, which had before simply been designated as a “faculty of thought, or of judgments,” is, in accordance with this distinction, defined “the faculty of rules.” — *Kritik der reinen Vernunft*, p. 113, seqq. We shall use Kant’s terminology only when it serves to facilitate the comprehension of his meaning.

calls this image * a *schema*, and the table of categories is thus converted into a *schematism*. He defines the *transcendental schema* as a "third element, which is homogeneous with the forms of sensation on the one hand, and those of the Understanding, the categories, on the other." † The object in space and time is ever a *multiple*, for it is *extension* and *succession*, and therefore admits of decomposition; the category is the principle of *unity*; the *schema* comprises them both. All our empirical ideas are founded upon schemata, not upon copies of external objects. An example, which Kant himself adduces, ‡ will at once make this clear. I have before me a triangle; as I see it, it is either obtuse, or acute, or rectangular; neither of the three adequately represents the generality of the idea *triangle*. My idea of an absolute triangle is, therefore, not a copy of any external representation of it.

The schema of *quantity* is *number*, in which the successive addition of One to One is figured. That of *quality* is *sensation*. The individual schemata of *relation* are, respectively, *permanence*, corresponding to *substantiality* ("that which remains, when every thing beside it changes"), — *the regular succession of the multiple*, corresponding to *causality* (for, empirically speaking, the *effect* is that which always succeeds the cause), — the *simultaneousness of action and reaction*, corresponding to *coherence*. The schemata of *modality* are, *agreement with time in*

* To preclude misapprehension, it is to be stated, that Kant himself distinguishes between "Bild," which is commonly translatable into "image," and his "schema." But the closer observer will find that Kant's "Bild" is equivalent here to the English "copy." I apprehend that many English students have stumbled over similar etymological blocks, when in pursuit of Kant's true meaning.

† Kritik der reinen Vernunft, p. 123.

‡ Ibid. pp. 124, 125.

general, or existence in *indeterminate* time, corresponding to *possibility* (for what is possible may exist at *any* time), — existence in *determinate* time, corresponding to *reality*, — and *existence at all times*, for *necessity*.

These schemata, as Kant himself remarks, are but *determinations of time* by the rules of the Understanding. The *schema of quantity* is the *generation* of time in the successive apprehension of an object ; in it we have the *series of time* ; — the schema of *quality* is the *synthesis of sensation with the idea of time*, or the *repletion*, the *fulfilment of time* ; — the schema of *relation* is the *order of time* ; — and, finally, the schema of *modality*, time itself, as the correlative of the determination of an object, whether and how it belongs to and *represents* time, — the *summary* of time.*

Since the schemata are the products of two *subjective, formal* factors, *time* and a *category*, both of which are unreal, they will be unreal themselves, and therefore but phenomenal. “Number,” says Kant, “is phenomenal quantity, — sensation, phenomenal reality, — the permanent, lasting principle in things, phenomenal substance,” &c.† The word “phenomenon,” however, is meant to suggest, furthermore, that the categories are now drawn from the void of abstraction into the realm of appearance, being associated with intuition.

Having thus both examined the pure forms of the Understanding, and brought them to bear upon those of Intuition, Kant next considers them as *principles of experience*, as forms of *empiric certainty*. These principles he classes (in conformity with the table of categories) as,

* See *Kritik der reinen Vernunft*, p. 128, seqq.

† Kant gives this in Latin : — “ Numerus est quantitas phænomenon, sensatio realitas phænomenon, constans et perdurabile rerum substantia phænomenon,” &c.

- a.) AXIOMS OF INTUITION, — QUANTITY.
- b.) ANTICIPATIONS OF PERCEPTION, — QUALITY.
- c.) ANALOGIES OF EXPERIENCE, — RELATION.
- d.) POSTULATES OF EMPIRIC UNDERSTANDING
GENERALLY, — MODALITY.

a.) *All intuitions are extensive quantities.* For the objects appear to intuitions as aggregates ; they are multiples, and a synthesis of such multiples we call *quantity*.

b.) *Quality is anticipated by perception.* For when judging of the quality of an object, we only *repeat* a quality which already lay in our sensation.

c.) *All observations are necessarily related to each other (necessarily connected).* In meeting with a substance, we thence infer the existence of an attribute ; every cause suggests an effect, and a process giving rise to a mixture of activity and passivity, on the one hand, betrays a similar process going on, on the other. — The three relations referred to are those of *permanence* and *inherence*, *generation* and *consecution*, and *composition* and *mutual action* (*commercium*).

d.) The principles of modality of course only refer to the degrees of certainty ; we ask, whether an object be *possible*, *real*, or *necessary*. In the first case we postulate the correspondence of an object with *formal* conditions only, in the second with *material*, and in the third with *general* conditions of experience. It is on this account that Kant terms these principles “postulates of the empiric understanding.”

We now have Kant's whole apparatus for empiric observation before us. We have the forms of Intuition, — *time* and *space* ; those of the Understanding, — the *categories* ; the association of the former with the latter, — the *schemata of transcendental imagination* ; we possess, moreover, the principles thence derived for experience. Are we now enabled to attain to empirical knowledge ?

Can we reproduce the objects in the mind? Not at all. The objects of sense and the forms of the Understanding were only *referred* to each other by the schemata of the imagination, and judged of, according to the principles of experience, as *phenomena*. The object and the formal Understanding are as complete strangers to each other now as ever; and were it not a little outrageous to perpetrate a pun on Kant's terminology here, I would say, they have approached each other, but the one has come *a priori*, the other *a posteriori*; they could not look each other in the face, and their countenances are therefore not lighted up by the smile of recognition. — The truth of the matter is, what has been repeatedly insisted upon: mere form and mere matter cannot be *joined*; they can only be *congregated*.

After all, then, Kant avers that we only know of *semblances*, of *phenomena*, — not of things as they are, of *noumena*. We can ascertain what a thing *appears to be*, not what it *is*.

But nevertheless Kant here subjoins, in an appended chapter, headed "The Amphiboly of the Ideas of Reflection,"* a disquisition purporting that all judgments are not subject to an investigation as to their grounds of certainty. It depends upon this, whether our conceptions are brought in connection by the *Understanding* or by the *Senses*. We must, then, *reflect*, whether we compare them with each other as belonging to the pure Understanding or to the intuition of the senses. This gives rise to a sort of previous general judgment, which has no reference to objective reality. There, then, we have another func-

* Kritik der reinen Vernunft, p. 214. — The term "Amphiboly," ambiguity (from ἀμφίβολος, *ambiguous*), is used, chiefly because (according to Kant) Leibnitz and Locke, from a neglect of the distinction here made, have fallen into opposite errors; the former into that of "intellectuating," the latter that of "sensifying," every thing.

tionary, *transcendental reflection*, which, trivially speaking, acts as hodman or understrapper to the judging faculty, — or, more correctly perhaps, as usher, introducing the conceptions to their proper apartments. — Antecedently to all objective judgments, we compare the conceptions to ascertain either their *identity*, for the purpose of *general*, or their *difference*, for the purpose of *particular* judgments; their *agreement*, whence *affirmative*, or their *disagreement*, whence *negative* judgments result. Similar distinctions are those of *Interior* and *Exterior*, *Matter* and *Form*.

III. REASON.

THE coöperation of the *receptivity* of Intuition and the *spontaneity* of the Understanding have now been examined; we are acquainted with its result, such as can be obtained. All that could be said of the subjective form (the *a priori* form, as Kant expresses it) and the material (given *a posteriori*) has been exhausted. The *dependencies* of the Understanding upon Intuition, upon the sphere of the senses, have been exposed. But, we are informed by Kant, there is an *independent* action of the mind, *Reason*,* which moves not in the sphere of finite relations, lives not in the world of sense, but dwells in a supersensible region, giving birth to general truths, — engendering *ideas*, not *thoughts*. (The word “idea” is here assumed in the old Platonic sense, and is inapplica-

* The exact discrimination between *Reason* and *Understanding* dates from the time of Kant. The sense in which the word “Reason” is taken by many other philosophers, as, e. c., F. H. Jacobi, &c., has often no reference to the Kantian meaning, and can be caught only in the spirit of the respective systems; it is both impossible and unnecessary to explain it here.

ble to mental affections induced by the senses.) The *Understanding* deals with intuitions (vaguely, *sensations*), and forms simple *judgments*; — *Reason* communes with itself alone; its conclusions rest solely upon themselves. The *Understanding* yet wears the shackles of *time* and *space*; — *Reason* is not thus limited; its ideas are boundless, and they can, in consequence, never be subjected to the observation of the senses. The *Understanding* arrives at the *General*, the *Whole*, from the parts furnished by observation; — *Reason* derives the knowledge of parts from an unimparted knowledge of the *Whole*. In *understanding* we *judge*; — in *reasoning* we *sylogize*. Intuitions were linked as subject and predicate in the *Understanding*, being thus formed into judgments, — the conceptions being converted into *thoughts*. An ulterior combination of these judgments is the province of *reasoning*; its form, as remarked, is the *sylogism*. Now reasoning is *unconditional*; it is *unconditional*, therefore, in its *conclusions*, which it could not be, unless its *premises* were so. But those premises are thoughts originally furnished by the understanding; they are consequently affected with conditionality, which must be expelled. In each of its forms, *Reason*, therefore, must find the corresponding *Absolute* to the conditional thought. Of such forms of reasoning there are three: the *categorical*, the *hypothetical*, and the *disjunctive*. Reasoning is *categorical*, when the judgment upon which it proceeds contains its elements as *substance* and *accident*, of which the latter is resident in the former; in the *Understanding* every substance becomes in turn the accident of a higher substance, and so on; *Reason*, then, must seek the supreme substantiality, which is no longer the accident of any other, and such is the *soul as the absolute substance*. In the *hypothetical* form of reasoning, the judgments employed are founded upon *causality*; this leads to an abso-

lute series of causalities, the universality of hypotheses, — the *Universe*. The *disjunctive* form deals with judgments whose subject and predicate are related to each other as *whole* and *part* ; we reason on, then, to an absolute *totality*, the *Supreme Being*, — the *Deity*.

Obviously, the foundation of all rational science would be herein comprised ; we have before us the domains of *psychology*, of *cosmology*, and of *theology*, — the sciences of *Man*, of *Nature*, and of *God*. A gleam of hope brightens the features of the reader ; I have told him, that in Reason the knowledge of the parts is deduced from that of the Whole. Now Reason uses only the forms of the Understanding and has nothing to do with its matter ; if, therefore, these three absolute ideas can be reached, we are able perhaps thence to *descend* (by analyzing these ideas) to the particulars required, and then to dispense with the teachings of the Understanding altogether. Is Reason successful in its endeavour to establish that absolute unity of judgments ? — Alas, no. — Reason *craves* for an absolute *substance*, an absolute *hypothesis*, an absolute *totality*, and constantly fancies itself sure of them ; but it is merely an illusion. In reasoning we aspire to the ideas of a *soul*, a *Universe*, a *God* ; but in endeavouring to verify these aspirations, we reach our conclusion by subreption in the first case, involve ourselves in downright contradiction in the second, and hunt the shadow of an abstract ideal in the third. Such a surreptitious conclusion is termed by Kant a *paralogism* of pure reason ; the necessary contradiction the *antinomy* of pure reason. The exhibition of these, by which the illusion is dispelled, is the task of transcendental *dialectics*, which demonstrates, that reason is unable to confer reality upon its ideas, and that, in attempting to do so, it transgresses its bounds, becomes *transcendent*. The unparalleled acumen of Kant's genius nowhere appears more admirable, and nowhere are we conducted by him to so

lofty an eminence, whence the entire philosophy subsequently unfolding itself may be surveyed at a glance, as in his "Dialectics," where it is shown that the blending of the unity of the Mind with the multiplicity of empiric observations upon which the old theories of the Deity and the Universe are based can never be more than apparent. I shall, therefore, endeavour to follow him closely.

A.) *Paralogisms*. Older psychologists, in attempting to prove the existence of the soul and to define it, had always *preconceived the substantial unity of the thinking subject* (as "I"); moreover (since the soul is not the *only* absolute substance), *predetermined its nature*; and then, in striving to convert it into a reality, inquired whether it was *material, mutable, corruptible, &c.*, or, on the contrary, *immaterial, simple, constant, immortal*, — whether it could commune with the body, &c. These qualities were abstracted from empiric observation, and then *bestowed* upon the idea of a substantial unity, *externally* connected with, instead of being *derived* from it. (That derivation, indeed, was impossible; for the mere idea of substance teaches me nothing more than this, that a thing is a subject *per se*, without in turn being the predicate of another subject, which of course affords no inferences relating to permanence, &c.) The attributes given to the soul were obtained by *negation* of material things, and then associated in absolute unity, — while it is just the thing to be proven, that these attributes are *unconditionally one*. The substantiality is every time *added*, as when it is said: the soul does not arise from the composition of material parts; therefore it is a simple *substance*. The same thing is to be observed with respect to the assertion: I think; therefore I am a thinking substance, &c.*

* Kant therefore uses the very expressive term, "*apperceptiones substantiatæ*." — *Kritik der reinen Vernunft*, p. 320. The paralogism (in which the premises are true, from which the conclusion is illegitimately derived) is there termed "*sophisma figuræ dictionis*."

It is clear (I state this anew, at the risk of being accused of litanizing) that we have here once more the demon that hunts us everywhere; Kant shrunk back from the identification of the Composite, Variable, Shifting, *Active* with a constant "unital" principle. This stands in yet stronger relief in

B.) The *Antinomies*, — the contradictions in which the idea of the Absolute is involved, when applied to the World or Universe for the purpose of representing it as the totality of its conditions. Kant himself finds it strange,* that pure reason, in arriving at its conclusions respecting the soul, although these resolve themselves into mere airy phantoms, should not afford any grounds for maintaining the very contrary; whereas this is sensibly the case in the sphere of rational cosmology. — It will be remembered that the great demand of reason is absolute totality of the conditions imposed by the Understanding, it being a necessary principle, "wherever the Conditioned is given, there also the whole sum of conditions, or the absolute Unconditioned, must be given."† After such an exposition of Kant, it is easy for every one to foresee his "unavoidable" contradictions. Reason insists upon an unconditioned totality; but that totality, on the other hand, is to be nothing but a *serial completion*, and depends upon a synthesis of *partialities given by the Understanding*.‡

* Kritik der reinen Vernunft, p. 323.

† Ibid. p. 325.

‡ Kant is at some pains to show (Kritik der reinen Vernunft, p. 326, seqq.), that only those categories of the Understanding, in which the synthesis forms a series, are available for the transcendental ideas of pure reason. With whatever is conditioned all the conditions which it presupposes are required, and their series is denominated a *regressive* one; it respects only *antecedents*. *Consequents*, furnishing a *progressive* series, are not necessarily presupposed by the existence of a thing, and are not therefore included in the domain of transcendental ideas. This being borne in mind, the table of categories will lead us to four transcendental ideas only. — The *quanta* of all our intuition, *time* and *space*, presuppose,

Accordingly as the one or the other is kept immediately in view, two contraries may be proved, standing as *thesis* and *antithesis*, namely :—

1. That the world has a beginning in time, and is limited in space ; or, on the contrary,

That it existed from all eternity, and is without limits.

2. That every compound substance consists of, and is therefore decomposable into, simple parts ; or

That *no* compound substance consists of simple parts.

3. That the world is mechanically determined by an external, physical causality ; or

That it is determined by a *free* causality.

4. That the world is accidental, — that either in or beyond the world there is no necessary being, or

That in or beyond the world there exists a necessary being.

The proofs adduced are all negative ; to prove the theses 1. and 2., Kant begins by supposing the contrary, the antithesis, and then reduces this to an absurdity. If, e. g. ad 1., the world had no beginning in time, it is *infinite* ; therefore the synthetical series of particular times is *interminable*, can never be completed, and is consequently *impossible*. So, likewise, if it be infinite in space, the series of spaces generating the infinitude will

— the former, in any of its divisions, a prior time, the latter an ulterior space, and so on. *Reality* in space, matter, is conditioned by its divisions, parts, and these again by their parts, and thus progressively, &c., &c., &c. The four transcendental ideas (to which the antinomies correspond) are then tabulated thus :—

1. The absolute completeness (totality) in composition of the given Whole of all phenomena.

2. The absolute completeness of the division of a given Whole in phenomena.

3. The absolute completeness of origination of a phenomenon.

4. The absolute completeness in the dependence of the existence of the Variable in phenomena.

be interminable, and hence impossible.— Again, thesis 2. : Either the decomposition of the compound cannot be effected, which is untrue, since the composition is but an accidental relation of the substance, that can subsist without it ; or, it being effected, if it consist not of simple parts, no individual substance, or *naught*, will remain.

The proof of antithesis 1. results from the absurdity of the assertion, that the world is finite in time and in space. For, if it be finite in time, there was a time, anterior to the beginning, when the world *was not*, — a *void* time ; but a void time cannot be distinguished from another void time by a determination such as would condition the origin of *something*. If the world be finite in space, then at its limits a filled space will stand in relation to empty space, or to *nothing*, inasmuch as space has no objective reality, — which is absurd. As to antithesis 2., it is said : If a compound substance be composed of simple substances, this composition is possible only in space. As many simple substances, therefore, so many individual spaces, occupied by simple substances. But every space comprises an extended multiple ; these *simple* substances, then, ought to be at the same time *multiples*, — an absurdity.

Thesis 3. rests upon the following : Every change presupposes a cause. If the world be not determined by an external causality, then there is a *free* cause, in which, however, we distinguish a state of activity from one of inactivity. The transition from the latter to the former is a *change* ; this supposes an ulterior cause ; hence the *free* cause is at the same time determined by another cause, — a contradiction. — Its antithesis is proved thus : If we suppose no free cause anterior to the first physical or external cause, there will be no final cause for the whole suite of physical causes, — we shall have no *absolute causality*, which was nevertheless required.

Thesis 4. reminds us of thesis 1. An unconditioned necessary being, in order that the series of conditional changes in the world may depend upon it, must be a part of that series ; but it cannot be a part of a conditioned series, without being itself conditioned ; again a contradiction. Antithesis : If there be no unconditioned, absolutely necessary being, the series of changes is wanting in any final condition ; it will be incomplete, which is not consistent with their conditionality.

Kant solemnly protests against the supposition, that in the above proofs of contrary assertions he had merely wished to impose upon the unwary by a logical trick, — to give an instance of *lawyer demonstrations*, as he calls them. The contradictions of human reason are unavoidable ; though it is not maintained that the *objects* are really affected by them. Reason may sustain, not with equal plausibility alone, but with equal justice, that the world is *limited* or that it is *unlimited*, — *atomistically composed* or *simple and homogeneous*, — *self-active* or *mechanically impelled*, — *accidental* or *necessary*. The attentive reader, however, will have traced these contradictions to two different points of view, and have perceived that the one or the other assertion was made accordingly as the world was beheld from the inclosures of the Understanding or from the heights of Reason. In the former case, it is impossible to *ascend* to the Absolute (as will at once be seen, e. g., in the demonstration of thesis 1.) ; in the latter, to *descend* to the Conditioned. Between the two there is a chasm which can never be overleaped.

C.) Reason is equally unsuccessful in its speculations concerning the Deity. The philosophers of former schools had defined the Deity as “ the most real being ” (*ens realissimum*) ; and, assuming existence as a predicate, they had inferred that this being must necessarily exist, since otherwise it would not be the most real being. This

was termed the *ontological proof*.* Kant showed that "existence" is no real predicate, i. e. something that can be *added* to a thing otherwise defined; that, on the contrary, it is nothing but the mere *position* of that thing. In the ontological proof, the Deity had first been defined as "a being whose non-existence is impossible," whence, as a matter of course, the necessity of its actual existence was thought to follow. This necessity had, moreover, been illustrated by the example of several similar identical judgments, as, e. g., this, — that "the proposition, In every triangle there are three angles, is necessary." Yes, was Kant's answer: to deny the predicate, and to retain the subject, with which it is identical, is a contradiction; but denying them both, subject and predicate, is no longer a contradiction: for there is now nothing to contradict. To deny that God is omnipotent would be contradictory; the predicate Omnipotence is contained in the subject Deity, and the former must be asserted, whilst the position of the latter is given in the word *is*; but it is no contradiction to say, *The Deity is not*; for we have now neither subject nor predicate, and my obligation to affirm the latter rested only upon my previous statement of the former.

Just as reason is unable thus to effect the transition from its idea of an all-perfect Being to the reality of the same, it is shown to be impossible to step from the reality of experience to that of a supreme Being wholly out of experience, which is attempted in the *cosmological* and *physico-theological* proofs.

Since the philosophy of Kant is of immediate interest

* Kant's polemics seem to be especially directed here against the ontological demonstrations in the philosophy of Moses Mendelssohn, his contemporary, — a distinguished, noble-minded Jew (the friend of Lessing) whose "Phædon, or the Immortality of the Soul," is not altogether unknown in English literature.

for us only in so far as we there watch the process of germination of the recent philosophy, I shall not follow him in his subsequent retirement into himself, where the mind, in its world of perfect freedom, in the enjoyment of its own laws and the aspiration after a self-conceived perfection, is indemnified for the loss of the realities without. Waiving, therefore, an examination of his "Critique of Practical Reason," his "Religion within the Bounds of Pure Reason," &c., I shall trace the developments immediately succeeding the "Critique of Pure Reason."

Kant had left reason standing in face of the schism between subject and object, with the dread conviction that the two were irreconcilable. Yet the eternal demand for their reconciliation remained, and we might foresee that the attempt to effect it would be made in one of two ways : either by regarding the one as the offspring of the other, which would establish their *analytical* unity, or by making them both the emanation of a third principle, which would lead to a *synthesis* of a higher order. These two systems are respectively set forth in Fichte and Schelling.

FICHTE.

ACCORDING to Fichte, the objective world is but a product of the subjective intelligence. The only absolute certainty which every one finds within him is that of the self-conscious "I." This "I" is self-conscious only in distinguishing itself from itself, in becoming its own object. The "I," which thus refers itself as *object* to itself as *subject*, is the principle whence all science of the world is to be systematically deduced. Fichte sought not for an apperception of external objects, for "agnition," as Kant had termed it, but for a *development* of the entire sphere of our consciousness from the immediate data of the latter; hence the title of his principal work: "Theory of Science" (*Wissenschaftslehre*). Pure consciousness is therefore the fixed point on which the philosophical construction of science is to rest, and the transition to empiric consciousness is *derivative*, not a mere cohibition, as in Kant; it cannot be an entrance into a different sphere, but empiric consciousness must emanate from pure consciousness by the active self-production of the latter. — An analysis of the active "I," then, gives three principles, of which the first is absolutely certain; "not subject to proof or determination, since it is to be the absolutely first principle."* This must be simple and identical; subject and predicate must be the

* Grundlage der gesammten Wissenschaftslehre, p. 3.

same, for, were they not the same, their connection would again rest upon another prior principle. We have, then, $I = I$, which is the abstract, indeterminate identity ; but the "I" is determinate, and therefore limits itself by opposing to the "I" a "Not-I." The second principle consequently is : the "I" is opposed to the "Not-I." The third principle is the mutual action of the two ; the limitation of one by the other. In this limitation the "I" may be either *active* or *passive*. Inasmuch as the "I" limits the "Not-I," the former is infinite, the latter finite, and *vice versa*. In one case I know myself as absolutely determining the "Not-I," as its cause ; in the other, I am determined by it as my necessary object. The former is the principle of *practical reason, the will* ; the latter, of *theoretical reason, intelligence*.

The manifold relations between the "I" and the "Not-I" lead to the development of theoretical reason. Now these relations are *limitations*, and their forms determine the object. Fichte calls these forms again *categories*, of which the first is "mutual determination" ; "by the determination of the reality or negation of the 'I' the reality or negation of the 'Not-I' is determined simultaneously." — The second is *causality*, "an equal degree of activity in the one and passivity in the other."* The third, "the 'I,' regarded as the absolutely determined compass of all realities, is *substance* ; being placed, however, in a sphere of this compass *not* absolutely determined, it contains an *accidens*."

In practical reason the "I" appears as limiting the "Not-I," as *will*, — an infinite, absolute, and free causality. Yet it is at the same time limited, and thence results the mutual action between the freedom of the "I" and the necessity of the "Not-I." The causality becomes a

* Grundlage der gesammten Wissenschaftslehre, p. 67, seqq.

mere tendency, a mere endeavour. Nevertheless, the "I," conscious that the "Not-I," as a limit, is doomed to annihilation, and confiding in an ideal Deity (a moral order of the Universe), is in duty bound constantly to struggle against the "Not-I," to labor for the realization of its own freedom.

The external world, then, in Fichte's system, waned into a world of shadows, projected from the intelligent subject, from the "I." And although it thus corresponded with it as its counter image, yet it remained in the attitude of opposition; the Kantian contrast had only made way for a new one, — that between the "I" and the "Not-I"; and the necessity of an annihilation of the latter, for the sake of a perfect emancipation of the former, again prompted an "endless endeavour." Furthermore, the "I," the subject, obviously stood in the midst of its own environment, of its world, as the creator of the same, a circumstance which forced Fichte already, so to speak, beyond himself, and led him to the idea of an ultimate, absolute "I," from which all individual subjects emanated as parts or representatives. It was this idea which became the matrix of the new philosophy of Schelling. The conception of an absolute "I," evolving from the depths of its being the world of realities as the image and counterpart of the world of ideas, required only the admission, that the former was coördinate with the latter, and not merely the temporary means of its self-consciousness, its temporary "objectivation," destined to be annihilated, to disclose the entire realm of thought and of actual existence — not to the *knowledge*, but to the *gaze*, of science. Here, then, opens the era of the new philosophy of nature.

SCHELLING.

IN the philosophy of Schelling a new idea became the soul of all the intellectual exertions of Germany. It was a vital spark which operated creatively in the old material and organized it afresh. The very facility, however, with which that material transformed itself under the apparent irradiation of this light, showed that the flame had ere that glowed secretly beneath the ashes, that it had already calcined the old forms, that their regeneration had been long and silently prepared. Schelling is the legitimate child of his century, and, to become fully sensible of the value of his philosophy, we ought to behold it in its anticipations, and especially in the poetical productions that stood around its cradle.

German poetry towards the end of the past century was materially influenced by the so-called critical philosophy. But it is the vocation of genius, and especially of poetical genius, everywhere to reconcile, to speak the word of peace when the Actual wars with the Ideal, to exhibit the sanctity of our interior in the existing forms of reality, by beautifying these. Thus the poets of Schelling's age had *virtually* achieved the redemption of philosophy from its formalism ; and this necessarily, because poetry is, after all, but the voice of life, before whose heaving floods the opposition of two bare abstractions, of a

bodiless Ideal against an inert Material, vanished like shadows in the distance. I will, then, endeavour, first, briefly to show how the maxims of Kant's and Fichte's philosophy perished in their practical application to thought and action. The only boon which the spirit of reflection in this philosophy conferred upon man was the sad discovery, that he was incapable of an agnition of the Absolute, of the Deity. He was thus forced back to the assurances of religious belief, to an irreflective acquiescence in dogmatical doctrines. Had this been an exalted faith in the revelation of the eternal spirit in nature and in man, — had it been the holy divination of the Deity's presence in the mind as well as in the material world, — the refuge would have been a noble one. But all life had been withdrawn; man was left standing with the horror of stupefaction before the phenomena of material nature, and with the idiocy of slavish compliance before the assumed dictates of an extraneous power. If there was any thing to fuse this icy incrustation of man's whole being, it was at most the sigh of a prayer breathed into a fathomless void; the eye was lifted into the boundless sky, lest it might rest upon a living object without, which would have become a mere "thing" of the Understanding, — upon the budding vegetation, which would have been so much grass and timber.

This was therefore a complete renunciation of the joy of converse with the life which encompassed man, the resignation of his own spiritual dominion over his environment, the retirement from his position of a mental proprietor of surrounding creation. It was for this reason a denial of his own energetic subjectivity; and if he wished to assert it, he could only, like Fichte, oppose his "I" to the infinity of the Universe, to worlds and their ruins. There is, no doubt, something sublime in this opposition; but man could not live and breathe on the ethereal height,

— he must enjoy ; and the reaction was that consequent upon all ascetical idealism, a plunge into brute reality. Happiness *per fas nefas* became the shout, and in the masses this result begins now perhaps to appear most universally. The evidence is given in some very recent forms of popular philosophy (not to speak of socialistic schemes) whose tendency is a justification of this endæmonism ; we will only mention two axioms, in which materialism retorts most cuttingly upon the demands of the idealists. As to intelligence it is said : “ The sign-post on the way to absolute truth is the index of the right hand,” i. e. truth is no other than the crude experience of the senses. As to morality : “ Fiat hominis voluntas,” — Let man’s will be done, i. e. let every craving of the moment be satisfied ! Feuerbach calls these axioms the *summum jus*, the *ultima voluntas*, the soul of the religion of the future !

To return. There was recoil, then, everywhere, — recoil from a petrified nature and its overwhelming destructiveness, — recoil from a Deity with the stern countenance of command, who did not vouchsafe the slightest revelation of his being, who could not even *inspire* awe, but only stun with his presence, who did not elicit one filial response from the vagrant “ man,” — recoil from the terror of the objective law, whose connection with the being and nature of humanity was not seen. And then again, conversely, the *practical* assertion, that every thing existed only for and with reference to man, that the created world was not a divine self-manifestation, but that the existence of all things was subordinate to practical purposes, in which man was, in spite of his idealistic nothingness, the ultimatum. The remark, “ that man was nothing but the stick on which all finite things were engrafted,” was perfectly just in this view. First, he was reduced theoretically to zero ; then practically all existences were made

to refer to him, resolved into a teleological trash, and thus both became equally worthless. High-sounding phrases, e. c., that every thing subserved a moral order of the world, &c., could not here be redemptive. The teleological abuses have been animadverted upon in the First Part ; moreover, the English and American readers are abundantly familiar with this frivolity, from the numerous treatises on science, &c., in which the Deity is made the procurator for man's particular wants, so that the product of divine creative energy has no other ground for existence than its being ministrative to particular, finite necessities. Nothing is more beautiful than the harmony of design in creation ; nothing more elevating than the doctrine of final causes, if this be taken as a necessary incident in the great self-revelation of the Deity, in which nothing is without its significance and dignity, in which all things are simultaneously means and ends ; but it must be confessed, that this system of final causes in the writings of Paley, Brougham, &c., is just as odious as the atheistical "necessity" in Mirabaud's "*Système de la Nature*."

Truth, therefore, existed not actually ; the whole sphere of existences was literally "a lie," for the Real was always inadequate to the Ideal. Beauty was banished from earth ; since the impossibility of a complete mutual adaptation, of a perfect harmony of parts, — the definition of beauty given by Kant and others, — was "a priori" established. Freedom, in the same manner, remained an eternal aspiration.

The extremes, which the idealistic asceticism of Kant and Fichte called forth almost immediately, can be seen by referring to the writings of such men as Heinse, Wessel, — even Tieck, F. Schlegel, and, in fact, of all the Coryphees of the romantic school at the epoch of its origination. It is mournful to witness the struggle be-

tween the claims of nature and the absolute dictates of a "categorical imperative" in genial men, who were borne along by the tide of this philosophical movement. The human soul had become the battle-field for the endless encounter of instinct and passion with the command of an adventitious moral rigor which stood in no other relation to human nature than that of an eternal antagonism. And truth, beauty, freedom, — all nothing but an everlasting problem! How disheartening the exclamation of the noble Schiller: —

"In des Herzens heilig stille Räume
Musst du fliehen aus des Lebens Drang.
Freiheit ist nur in dem Reich der Träume,
Und das Schöne blüht nur im Gesang." *

Again, from his earlier days, still more strongly and characteristically here: —

"Wenn ihr in der Menschheit traur'gen Blöße
Steht vor des Gesetzes Grösse,
Wenn dem Heiligen die Schuld sich naht,
Da erblasse vor der Wahrheit Strahle
Eure Tugend, vor dem Ideale
Fliehe muthlos die beschämte That,
Kein Erschaff'ner hat dies Ziel erflogen;
Ueber diesen grauenvollen Schlund
Trägt kein Nachen, keiner Brücke Bogen,
Und kein Anker findet Grund," &c. †

* "In the heart's holy stillness only beams
The shrine of refuge from life's stormy throng;
Freedom is only in the land of dreams,
And only blooms the beautiful in song."

† "If human sin confronts the rigid law
Of perfect truth and virtue, awe
Seizes and saddens thee to see how far
Beyond thy reach perfection; if we test
By the ideal of the good, the best,
How mean our efforts and our actions are!

All the poems of his Kantian epoch breathe the same resignation ; they are all a last farewell to life and actuality.

“ Aber flüchtet aus der Sinne Schranken
In die Freiheit der Gedanken.” *

Much as we are enraptured by the beauty of his diction, fired as we are by the glow of his enthusiasm, the permanent effect of such poems as “ The Ideal and Life,” yea, of “ Don Carlos ” (as originally cast), is more than “ sweet melancholy ” ; it is a suicidal longing, it is despair. Yet Schiller was thoroughly a poet ; with him every thought was born a feeling, and he could at most be temporarily fettered, but not enslaved, by this philosophical rigorism. And this is evinced in his productions ; the nobility of nature could scarcely be more strongly asserted than in the poetry of regret with which he forsakes it. When he says, —

“ Zwischen Sinnenglück und Seelenfrieden
Bleibt dem Menschen nur die lange Wahl.
Auf der Stirn des hohen Uraniden
Leuchtet ihr vermählter Strahl,” † —

the poet within him betrays, in the last two lines, what

This space between the ideal of man's soul
And man's achievement who hath ever passed ?
An ocean spreads between us and that goal,
Where anchor ne'er was cast ! ”


* “ But fly the boundary of the senses, — live
The ideal life free thought can give.”

† “ With man the choice
Timid and anxious hesitates between
The senses' pleasure and the soul's content,
While on celestial brows aloft and sheen
The beams of both are blent.”

Bulwer's Transl.

the philosopher does not acknowledge : that the Highest lies not in a subjugation of the Material by the Ideal, but in the harmony, or rather, identity, of the two. Thus Schiller flies, — yet he lingers ; he inculcates the daring of renunciation, — and yet he warns the disciple against lifting the veil of the mysterious goddess. In his prose writings on *Æsthetics* (to which confident reference can now be made, since an excellent translation of them has recently been offered to the American public) he endeavours to effect a compromise between ideality and life ; he seeks at least to vindicate the right of the affections and to dignify them in the sphere of the beautiful. — His latter dramatic productions attest his final victory.

Without any special study of the poetical transitions of those times, it is obvious enough to the reader of German poets how each one, as, e. c., Schiller here, gradually emancipated himself, and with him his literary era. Herder, who aspired after the *Humane*, in contradistinction to the Ideal, and who, in resisting the critical philosophy, sometimes, perhaps, misconstrued it, — Goethe, whose naïve realism kept him at a distance from the movement entirely, who wished for a moral beauty, but *in* and *with* life, and not *without* or *beyond* it, — romantic poetry, which was much rather one of the parents than the child (as it is so often represented) of the new philosophy of nature, — moreover, the impulse which empiricism itself had given to the natural sciences : — all these were elements which combined to form the system of Schelling. The renewed Spinozism of Lessing was then quite fresh ; Germany was alive with mystical movements, old cosmogonies were exhumed, Jakob Boehme was once more an author of the day, and influenced the first views of Schelling in no slight degree ; Fichte's philosophy had been so often and so variously remodelled, that, in many instances, it gained an altogether pantheistical aspect ;



Novalis was pregnant with a new philosophical mysticism, of which several fragmentary adumbrations have been left us. Under such auspices Schelling's philosophy came to light, and I will now proceed to give a succinct exposition of it, such as it stood in its maturer form.

The Real and Ideal, which were exhibited in most salient contrast by Fichte and Kant, are (according to Schelling) eternally opposed to each other, and nevertheless eternally one; they are different, but corresponding, revelations of the Deity, which is their source only in so far as it is their identity. All knowledge, all science, is affected with this antithesis, and the "I" not only *establishes*, but *is*, their identity; the reality of the "I" lies in its thought. And thus the absolute science, the simultaneous and comprehensive science of the Universe, of which all other science is but an individual act, — the Deity, — is the eternal identity of the subject and object, of the Ideal and Real. The Absolute, the Deity, is consequently neither subject, nor object alone, it is both: "subject — object." It is impossible, therefore, objectively to represent, to *define*, the Absolute; it admits of *conception* only by means of *intellectual intuition*, — a process of introverted self-intuition, in which we divest ourselves of specific personality, — and of *expression*, by means of the *transcendental imagination*, whose representative is *art* in its most exalted capacity.*

* In many parts of this little treatise of Plato, Τιμαίω τῷ Δοκρῶ περὶ ψυχᾶς κόσμου καὶ φύσιος (Plat. Opp. Lugduni, 1590) one may imagine he sees the system of Schelling forecast; at first (p. 553, above) two principles are distinguished, the Idea and Matter: δύο ὧν αὖτε ἀρχαὶ ἐναντία. ἃν τὸ μὲν εἶδος λόγον ἔχει ἄρρενός τε καὶ πατρός· ἃ δ' ὕλα, θήλεός τε καὶ μητρός, — that they are two contrary principles, of which the idea has the significance of the male and the father, matter, on the other hand, that of the female and mother. — Afterwards (below) the union of these is spoken of almost in the sense of Schelling: τὰ γὰρ κατὰ ἀρίστην ἀναλογίαν συντεθέντα ἐν ἰσοδυναμίᾳ, οὗτε κρατεῖ ἀλλήλων

The activity of the Absolute consists in the reproduction of its own being ; now this being is the identity of the Ideal and Real, and on that account we see this activity appearing as the tendency to idealize the Real and realize the Ideal, — to advance them both to absolute identity. All science is but a rehearsal of the absolute science, of the above activity, a repetition of this eternal process ; accordingly there are two branches of science : the philosophy of nature and transcendental philosophy. In the former we start from the Real and proceed towards its perfect idealization ; in the latter we begin with the Ideal and trace it in the direction of its adequate reality. The Real tends to its complete introversion, to its infinite self-concentration ; the Ideal to its infinite exterioration, to its boundless self-expansion. But this transformation in one, and transubstantiation (if it be permitted to use the expression) in the other case, could not take place, if they were *qualitatively* distinct ; if nature, the world of realities, did not contain an ideal, and the sphere of ideality a real factor. It is, therefore, a fundamental proposition in the philosophy of Schelling : *all difference is quantitative*. The divine being, which dwells in the universality of nature and the mind, is creatively infused into every particular form, — *now*, however, insisting upon the Real, *then* upon the Ideal. The two spheres of nature and of mind are therefore nowise brute realities and abstract ideals ; it is merely a *predominance* of the Real in the one and of

ἐκ μέρους, οὕτε κρατέεται· ὥς τὰ μὲν, αὔξαν, τὰ δὲ φθίσιν λαμβάνει· μένει δ' ἐν συναρμογῇ ἀδιαλύτῳ κατὰ λόγον ἄριστον. τριῶν γὰρ ὀντισμῶν ὄρων ὅταν καὶ τὰ διαστάματα καττὸν αὐτὸν ἐστάθῃ λόγον ποτ' ἴσχυρα, τότε δὴ τὸ μέσον ῥυσμῶ δίκαν ὀρήμεθα ποττὸ πρᾶτον ὃ, τι περ τὸ τρίτον πόττ' αὐτό· κἂν πάλιν καὶ παραλλάξ κατ' ἐφάρμοσιν τῶπων καὶ τάξιος, — that the [principles] in the best proportion are joined by a common [equal] power, neither overpowering nor being overpowered mutually, so that some take the increase, others the defect, but remaining in indissoluble union after the best manner, &c.,

the Ideal in the other, which gives to each its peculiar impress. The Real is thoroughly pervaded by the light of the Ideal, and the Ideal conversely crystallizes as reality. Nature is not without her immanent ideality, nor the mind without its immanent reality; the former is not, therefore, exclusively the realm of necessity, nor the latter exclusively that of freedom. Nature is free, because she is not dead, rigid, though concrete, — because nature is an eternal origination. Again, the Ideal is necessary, because it is forced *to be* and to become phenomenal. Freedom is the character of the Absolute (and of its forms), when we take it as the internal principle which sustains itself as unlimited even in its limited manifestations, and on that account goes beyond them; necessity, on the contrary, when we grasp at the objective totality, whose parts have being only in the *Whole* of objectivity. The Ideal is essentially an organized *anima*, the Real just as essentially an animated organism.

But we shall be forced, if not to use the language, at least to avail ourselves of the imagery, of Schelling. The function assigned by him to philosophy is that of *construing* the Absolute, of reiterating the process of its self-evolution. Philosophical utterance is hence necessarily symbolical, and it is impossible to replace it by strict logical deduction. — The symbol of the Absolute is the magnet: * one principle constantly manifesting itself as two poles, and still resting in their midst as their identity. Divide the magnet: every part will be a complete system

* Goethe says: "The magnet is a primitive phenomenon, whose expression is at the same time its explanation; thereby this, for which we have to seek neither symbols nor names, becomes a symbol for every thing else." — Elsewhere:

"Magnetes Geheimniss, erklär' mir das,
Kein gröss'res Geheimniss als Lieb' und Hass."

"Explain to me the magnet's secret; no greater secret than love and hatred."

in itself, — two poles and a point of indifference. Just as every part of the magnet is the entire magnet in miniature, so also every individual development in nature is a miniature Universe. Since the preponderance of the Real, however, is the characteristic of nature, the Ideal, though present, is held, as it were, in the bondage of matter, spell-bound in the embrace of reality. But in an ever-rising gradation the Ideal effects its disenchantment; the members of that gradation again embody the type, Real, Ideal, and their Identity, where it is to be remembered that in each of the three both principles are present, so that these powers or potentialities (*Potenzen*), as they are denominated by Schelling, represent but a particular quantitative difference.

The first power in nature is *gravity, matter*, the most real principle, which craves a necessary complement from without; that complement, the “ideal Real,” is *light, motion*, — the second power; the union of both, their identity, *life, organism*, constitutes the third. The first two, matter and light, have their centre of existence, their “centre of gravity,” without themselves, — the one in the other; the organism in which both coincide rests in itself, and depends upon no external point of support. — The Ideal manifests itself at the Real first in the crystallizations of inorganic nature, then appears as light in the inflorescence of plants, but especially in the sexual polarity of plants and animals subjectively and objectively at once, and centralizes itself at last most completely in the brain of the animal.

The absolute identity finally breaks forth in the being of man, in reason and its offspring, the world of ideas. In this ideal sphere analoga of the above potentialities recur: 1. *truth* and *science*, — the Ideal existing ideally 2. *goodness* and *religion*, — the Ideal existing really 3. *beauty* and *art*, — the Ideal existing both really and

ideally. — We see that the Real progresses towards identity by bodying forth with increasing adequacy the Ideal, and that, conversely, the Ideal advances towards the same identity by shaping itself out more and more in the forms of the Real. As the acme in one case we behold reason organized in man, and in the other the transcendental imagination embodied in works of art. — The history of these processes will exhibit a progressive reality adequate to the Ideal in its totality, but inadequate to it in its particular forms. History combines freedom, lawlessness, in the individual, with necessity, order, in the whole.

It may be interesting to state what are the determinations given to two fundamental forms of the Kantian philosophy, — *time* and *space*. According to Schelling, they are the first and purest reflex of the Absolute in the Ideal and Real respectively ; the first discission or differentiation of the absolute identity. The identity appearing (becoming phenomenal) in the Real is *pure existence* or *being*, and the negation of all movement : *space*. The identity appearing in the Ideal is *pure movement*, the negation of existence : *time*. Not *existence*, but only the *change* of existence, is in time ; in time the act of denying, annihilating existence is exhibited.

In all the writings of Schelling and of his disciples the endeavour to trace the parallelism between the Material and Spiritual is the most prominent feature. This gives birth to a groping formalism in many cases, though rarely without eliciting some luminous flashes by which the reader is cheered in the midst of the confusion. Goethe once defined youth to be "ebriety without wine," and this is fully applicable to the early days of the philosophy of nature. The reader, accustomed to the ordinary phraseology of scientific works, is strangely affected by the mystic eloquence, e. c., of Henry Steffens. It seems the whisper of a dream, to hear that calm medita-

tion germinates in the solid grain of the mind, reducing all the antitheses of life and thought to the primitive antithesis, just as magnetism germinates in the solid, metallic grain of the earth, likewise reducing the antitheses of the latter to the primitive polarity ; — that the understanding detaches itself from this solid centre of meditation, where all things rest in holy alliance, generating, with infinite mobility, but according to fixed laws, new antitheses in the original one, just as electricity separates itself from the primitive polarity, moving every thing with its mobility, in order to exhibit new polarities in the products of its union ; — that thoughts converted into actions in mutual penetration engender a common offspring of social relations, wherein man recognizes the faculties of his life, just as electricity, incorporated in a chemical process, gives rise to the numerous relations of the planetary bodies, &c.

The foregoing very brief sketch will suffice to convey the fundamental ideas of Schelling's system, which has never been completed by the author himself, but which has been variously applied and developed by his illustrious disciples. Schelling's first ideas were the lightning's flash, which kindled many a sacrificial flame on the hearth of nature. The impulse given to scientific exertion in almost every department is incalculable. Nature, heretofore a dead conglomerate, cast, as if at hazard, into void space, now presented the countenance of the Deity emerging in every individual form and charming man in the lowest of organizations. The breath of the Deity was felt in the respiration of nature ; its spirit was beheld marching across the stage of centuries, prompting the great historical drama of all time. Life, the power of divinity everywhere ! The Schellingian philosophy has, perhaps, little absolute merit ; its formal incoherence in many respects is glaring enough, and has even been ac-

known by the author in latter years. It has not rent the veil of nature ; but to have earnestly enounced, that there is a veil to be rent, that nature is symbolical, — this is its eternal merit. Formerly philosophers and men of science investigated but the *external* relations of the different forms of nature ; now they stand before it in the attitude of interpreters. To use a comparison of Schelling : before him, in turning over the leaves of nature's *Iliad*, they compared the forms of the letters, traced the resemblance of their shape, and examined their technical composition ; now they endeavour to *read*. And now, too, does man first become *familiar* with nature, in recognizing there the same life which animates him. With life only can life associate. Up to the period of Schelling, nature had stood opposed to man as a hostile power, as a barrier to his exertions, as a wall immuring him, as a dread necessity numbing him with awe ; the magic wand of Schelling metamorphosed it into his home ; it was perceived, that man's freedom lay in the necessity of his reciprocation with nature, and that he could attain to the consciousness of the infinitude of his being only by seeing it mirrored in that of the external world.

Among the fruits of the philosophy of Schelling is the systematization of nature by Oken. In unfolding it before the eyes of the reader, I am not unaware that many of the forms will be found very quaint, and some of the enunciations oracular ; that, moreover, parts of the system will appear to him, as they do to me, not only imperfect, but arbitrary, — such as the theory of light, the constructive polarity induced everywhere, which sometimes degenerates into an odious system of formularies, the theory of metallic formations, the forced analogies between the organs of plants and animals, &c. Yet, even should we be forced to reject the first portion of the system altogether, this would be more than redeemed by the theory of or-

ganic gradations, in which, I hope, the reader will fail to appreciate the universality and philosophical importance of the principle, that in the different forms of nature the various activities of the Absolute, of the I, are successively and individually exhibited, until the collectively exposed, bodied forth, in harmonic and certain energy in the crown of creation, — man. The tails are undoubtedly defective in many instances ; but the fundamental position, that the organs of man (each responding to a separate activity) are, as it were, distributed throughout the organic world, assigning to each its unalienable rank in a natural scale, which embodies the genetic progress of nature, will now no longer be controverted. The study of man thus becomes the study of all organic nature, and, conversely, in studying organic nature, we gain an insight into the mental and material structure of man. The human organs are beheld separately and distinctly in the constituents of the animal kingdom, so as to afford the freest access to every side feature and an unlimited scope to observation and comparison. In nature we have, according to Oken, a microscopical view of man. The functions, whose joint and interinvolved operation in the human organism embarrass every view and precludes all intelligent scrutiny, there appear in relief, act without entanglement, and without obstructing veil to the eye of the examiner.

But let us not anticipate the system. As I have remarked. Oken's language is always strange, and often

hasty condemnation of every thing unusual or apparently crude.

Oken's writings are a regular history of the gradual advance of his system. My chief sources will be : "A Theory of the Senses, and a Classification [of the Animal Kingdom] founded upon them"; — "On Generation"; — "Biology"; — several programmes, as : "The Universe as an Extension of the Senses"; — "First Ideas for the Theory of Light"; — the "Manual of the Philosophy of Nature"; — and especially the "Natural History," 15 vols. ; together with some numbers of his "Isis."

OKEN'S SYSTEM OF NATURE.

THE Universe is the reality of eternal ideal forms, which may be termed mathematical ideas, or simply mathematics. The movement of these is mind, their exterior manifestation nature. Philosophy is twofold : that of *nature*, whose province is the material, phenomenal world ; and that of the *mind*, whose sphere is ideal, spiritual. The object of the former is, to exhibit to our mind the genetic evolution of the material world ; — therefore also its first origin in naught, and its subsequent development up to its limit, man, who is a complex of all preceding forms, includes all particular developments, and is, as it were, the focus where the various tendencies of nature converge. Man comprises the formations of entire nature ; he is, both really and ideally, the systematic index to its individual beings. In him all eternal activities, all divine ideas, are gathered ; and it is on this account (to use an expression of Father Goethe) that he is enabled “ to think again the great thought of creation,” that he is an incorporation of reason. In the philosophy of nature, then, it is to be shown, that the laws of the mind are identical with those of nature, that the two are reflexes of each other. While the philosophy of nature and the philosophy of the mind thus run parallel, the former precedes the latter, inasmuch as nature *appears* prior to the mind. Yet the Spiritual — the mind — is anterior to the Real, and its generator.

The totality of mind appears in man ; but its individual activities are diffractively exposed in as many individual forms. In like manner, the organs of man are separately exhibited throughout nature, and lead (if we may be pardoned the expression) each an independent, separate life.

The Philosophy of Nature has three principal divisions : —

I. The theory of the Mind and its activities, — of the Whole (*de toto*), — Mathesis.

II. The theory of the Individual (*de entibus*), — Ontology.

III. The theory of the Whole in the Individual (*de toto in entibus*), — Biology.

The first of these will be subdivided into the theory of the immaterial Whole, *Pneumatogony*, — and of the material Whole, *Hylogony*.

The second will comprise as its subdivisions *Cosmogony*, the theory of the development of cosmic bodies, — and *Stæchiogony*, the theory of the individual elements. Of the latter there are two ulterior branches : *Mineralogy*, treating of the terrestrial elements individually, and *Geogony*, treating of the same collectively.

The third, *Biology*, is the theory of the organic world, *Organogony*, with its subdivisions, *Phytosophy*, treating of the development of plants, and *Zoöosophy*, inquiring into the development of animals.

FIRST PART.

MATHESIS.

THE highest mathematical symbol, which is the type of all positions or creative acts in nature, of which all positions are but *tautologies*, is $+ 0 -$. The Zero is the identity of $+ -$, and the latter originate in it, being contained in it, not *actu*, but *potentiâ*. (We see that this is but a recurrence of the Schellingian theory of identity, thus peculiarly formalized.) $+ -$ are the first realizations of the ideal Zero, just as, e. c., an acute and an obtuse triangle are realities of the idea triangle. This latter does not contain the former; and yet the ideal triangle cannot attain to its absolute, universal reality, without becoming acute, obtuse, and rectangular. This, then, illustrates the truth which stands at the head of the philosophy of nature: *The Ideal, when realizing itself, necessarily becomes a multiple*. The Real is the same as the Ideal, but under the form of multiplicity.

The ideal Zero is identical with $+ -$ and with the successive position of these two, — with the series of numbers; but the Zero is an infinite *intensity*, whereas the numerical series is an infinite *extension*. The latter is but the former phenomenalized; the Real is the Ideal in determinate position, or the Ideal limited, as, e. c., the obtuse triangle is a limited reality of the idea triangle.

The Eternal, therefore, is literally the Zero of nature, and from it every thing temporal, finite, proceeds.* The

* Taken in its crude, literal acceptation, this would, of course, be not only an absurd, but an abominable doctrine. Oken wishes, however, to regard this formal origination only as "*heuristic*," — a term very common in German philosophy, but which is not to be explained in two words. For a determination of its import, we must refer to our remarks premised to the philosophy of Hegel.

first dissection of Zero is that into $+$ — ; the *self-definition* of the Eternal. $+$ and — are, as it were, the spirits of all numbers ; every number is only a successive position of $+$ or —. The numbers are *acts* of the primitive idea, of Zero, which is not absolute Naught, but an *ideal* act without substratum. This primitive act has a twofold tendency, that of affirming and that of denying itself. $+$ is the self-position of 0 ; but $+$, being nothing else than 0 in position, must return thither, which takes place through the medium of —. The act of affirmative position is therefore simultaneously that of negation ; the 0, when existing, is necessarily $+$ —. The realization of the Eternal is therefore its own antithesis. 0 is $= +$ — ; not $= +$ or $= -$.

The existence of the Eternal is “self-objectivation,” *self-consciousness* ; the eternal self-consciousness is the *Deity*. The acts of self-consciousness are the thoughts of the Deity, to which the external world corresponds as the language, the utterance. The Deity is distinct from the world, as thought is distinct from language. — The philosophy of nature might be termed the *Grammar* of the divine language ; the philosophy of the mind its *Logic*.

The Deity is essentially a trinity : 0 $+$ —. Since every individual thing or being is but the uttered thought of that trinity, and the Deity's thoughts are acts of self-consciousness, — *since the Deity thinks only itself*, — it follows that every individual thing or being must also exhibit a trinity, and that every individual act must be a repetition of the primitive act. The forms corresponding respectively to 0 $+$ — are *rest*, *motion*, and *extension* (form, solidity).

A. — PNEUMATOLOGY.

1. *Rest.*

PRIMITIVE rest = 0 is absolute position, the quiescent point in the Universe, whence every thing proceeds. The second form,

2. *Motion,*

is repeated position of the first, a numerical series $1 + 1 + 1 + 1$, or simply $++$, &c. This repetition without a substratum is *time*, the act of successive position or of *numbering*. All things are created in time; their change is time. Time is the act of numbering; numbering is thought; thought is time.

The necessity, in virtue of which 0 becomes $+-$, or enters into position as time, is called *force*, — the primitive force. But every positive position is at the same time a negation; the primitive force is in consequence essentially dual, — a *polarity*, $+-$. The law of causality is polarity. Causality is generation; we see that *gender*, the sexual antithesis, takes its rise in the very first germination of the world.

Time may also be defined the polar position of the primitive act.

The primitive motion, as all motion, is the result of polarity. All motion originates in this polar duplicity; it is therefore of *spiritual* or *dynamical*, not of *mechanical* origin. A motion depending *ad infinitum* upon external impulse alone is an absurdity.

There is no individual thing without motion, just as there is none without time. A finite thing without a perpetual motion is a contradiction. All rest in nature is but relative, — combined motion. Only in the Eternal, in the Naught of nature, there is rest.

The motion of finite things thus prompted by polarity may be comprehensively termed *life*. Polarity depends upon a constant return into itself (to identity), and in that sense it may be said, all life is self-returning, circular.

Without life there is no existence. The old idea of a separate vital force is an absurdity ; things do not pre-exist, and wait for the breath of the Deity that is to call them into life ; *they are breathed, spoken, into existence*. Life is the cause of all existence.

Nothing is *dead* ; the world itself lives and maintains itself by its vital process, just as an organism maintains itself by constant self-regeneration.

Upon the polar nature of life depend the following truths : Every thing existing is a duplicity ; it exists by itself, independently, on the one hand, and is merged in the Universe, on the other. Hence, in every vital form there are two processes : one individualizing, vivifying, another universalizing, mortifying. In the former process, the finite thing evinces the tendency of becoming the Universe ; in the latter, that of combining its individual unity with the universal multiplicity. The Universal embodied in, or represented by, the Particular is termed *Individual*.

It is evident from the above, that in the Universe there are two totalities : the primitive totality $+ 0 -$, and the final totality, the summary of all the particular acts of the former ; the one *eternity*, the other *infinitude*. An individual comprising all these particular acts would be a representative of the latter totality, — the highest and last being in creation. Inasmuch as the realization of the Eternal is self-consciousness, such a being would be a living self-consciousness. This being is Man. He is the Deity “ self-objectivated,” thought in the infinitude of time. Man is the Deity wholly phenomenal. In the inferior beings and forms God thinks and speaks *part* of

himself, — particular attributes only ; in man he thinks his integral being. Man is a complex of all things in nature, — of the elements, minerals, plants, and animals.

Man is a compound of freedom and necessity. A being which is not determined by another being is free ; God is free. Man is free inasmuch as he is the image of God ; he is not free inasmuch as he is the image of the world. Man is free in his principle, but not free in his object ; free in his resolve, but not free in its execution.

3. *Extension, Form, Solidity.*

The absolute act as the “positing” subject is *time* ; as the result of that position it is *space*. The affirmative position of the Zero is followed by its negation ; motion returns to rest. Space = time at rest ; space in motion = time. The two sciences corresponding to time and space are Arithmetic and Geometry. Arithmetically considered, every position is a number ; geometrically, it is a point. The arithmetical Zero is 0 ; the geometrical Zero is the point.

Time is *everlasting* ; space is *infinite* in extent. Time is *ever* ; space is *everywhere*. — All things are in space. Just as time is the infinite position or extension of number, so space is the infinite position or extension of the point. The point extending in all directions forms the sphere, which is therefore the most perfect, the divine, primitive form. On this account all organic forms are spheroidal, while inorganic forms are angular. Whatever exhibits a totality in the Universe is a sphere.

The point in the act of extension repeats itself, and this gives rise to the radius, the absolute line. The primitive line is essentially radial, and affected with a twofold character ; at its central extremity it is 0, at the peripheric extreme + —, the divided Zero. This gives us the type

of a new polarity ; that in which the extremes are to each other, not as $+$ and $-$, but as 0 and $+$ $-$.

The primitive line in continued polar action is a luminar line ; *light* with reference to the Universe, *magnetism* with reference to the planet.

The outer limit of a sphere is a *surface*. There is no *plane* surface in the Universe ; every surface is spherical, and since it consists of the polar extremes of the radii, it is an absolute duality, $+$ $-$. This duality appears active as *electricity*. — The sphere combines line and surface, — the representatives of time and space. The process of the origination of the sphere is *heat* in the cosmical, and *chemism* in the planetary sense. The sphere in motion is *rotation*.

To resume : the incorporation of *time* is the *line* ; that of *space* the *surface* ; that of *life* the *rotating sphere*.

B. — HYLOGONY.

1. *Rest, Gravity.*

THE extension of the central unity, or rather, Zero, consisted simply in the repeated radial position of the latter in virtue of a polar action ; the removal of any particular point from the primordial centre, caused by the succeeding evolution of another point, must therefore be attended with the opposite tendency to return thither. This tendency is *gravity*. Gravity is prefigured in the return of numbers into Zero ; it is a geometrical reduction of position to Naught. The centro-peripheric action which generates the sphere must exhibit itself in a twofold way as a centripetal and a centrifugal force, of which the latter is the division of the primitive act, the former a reunion of the individual acts resulting from that division.

It follows from this, that only the centre, or the primitive act, is without gravity. Gravity in the individual thing is *weight*, and it is easily seen that this is not an attribute of the Whole.

Gravity is Matter, — the Ponderous. Matter is the total position of the primitive act, the trinity of the ideas : the Zero, its discession and the return to it. Matter originates simultaneously with time and space, and fills, or rather, constitutes, the entire Universe. Every thing existing is material.

The primordial matter in the Universe, which is omnipresent, may be termed *ether*, and this is the highest divine element, the primitive substance = 0 + —. Inasmuch as it is as yet without individualization, it may be termed *chaos*.

All the preceding principles, being universal, generic or immediate appearances of the Deity, do not actually exist as such ; they are only “ heuristic ” (from *εὐρίσκω*, *to find, to attain to mental conception*). The General has never existed as such ; it has existed from all eternity as the Individual. The ether therefore divides itself essentially into an infinitude of subordinate rotating spheres. The rotation of every individual sphere is a twofold one : one around its own axis, by which the primitive act of spherical generation is represented ; another around the universal axis, which exhibits the contrary tendency to return to the centre. Every cosmic body, as every thing individual, is thus animated by a twofold life, a particular and a universal one.

2. *Motion, Light, Line.*

The ether is essentially a duality, and separates into a central and a peripheric mass, of which the former may be designated as *sun*, the latter as *planet*. Between the two there is a constant polarity, and that linear polarity is

light. Every ray of light has two opposite extremes, of which the central one (turned towards the sun) is 0, the planetary one + —. Light is the life of the ether ; this ether without polarity is darkness, the image of death. Light, being a polar tension between sun and planet, presupposes the existence of both, — not of the former alone.

3. *Extension, Heat, Solidity.*

The reaction of light, — that principle which tends to restore the identity after the polar discission under the influence of light, is *heat*. Light combined with heat constitutes fire, which is the perfect symbol of the Deity ; it is the complete triplicity of the primitive act, of which the three moments are,

Fire (trinity)	{	Gravity, ether, darkness, — rest ; Light, polarized ether, — motion ; Heat, ether returning to identity (indifference), — extension, form.
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SECOND PART.

ONTOLOGY. — OF THE INDIVIDUAL.

A. — COSMOGONY.

1. *Rest, Centre.*

THE discission of the ether into a central and peripheric mass can give rise only to spherical bodies, since it is but a repetition of the primitive act in which the universal sphere was generated. A totality of central and peripheric bodies may be termed a solar system.

2. *Motion, Line.*

The peripheric bodies have been separated from the central mass in virtue of the polar, linear action. These planetary masses are originally concentric hollow spheres rotating with the central sun ; this rotation contracts them into equatorial rings, which, under the influence of gravity and the continued luminar action, condense again into spherical bodies. These in their turn become rotating centres, and a separation into planetary and satellitic bodies repeats, as it were, the first solar formation.

3. *Extension, Form, Solidity.*

The absolute central position of the sun is precluded by the antithetical action of the planets, all of which tend to centrality themselves. A duplicity of centre is thereby induced, and the solar system really exists, not in the spherical, but the elliptical form.

Comets are cosmic bodies without a fixed degree of polarity or condensation. This polarity is imparted to them momentarily by the sun or by other cosmic bodies. Hence the temporary origination of the cometic tail, &c.

B. — STÆCHIOGONY.

THE separation of the ether into polar masses effects a condensation which is consequent upon the fixation of a determinate pole in a given ethereal mass. The characteristic of the ether is an absence of all fixity of pole ; each ethereal particle is endowed with both poles. The fixation of individual poles is due to the action of light ; their solution to that of heat. Light creates poles, heat destroys them.

In conformity with our fundamental typification we shall obtain three simple substances : a *ponderable* substance = 0, a *luminar* substance = +, and a *caloric* substance = —.

The fixation of the caloric ether gives birth to the most attenuated and mobile substance, *Hydrogen*. The luminar ether, when fixed, produces the most active substance in nature, *Oxygen*. Ether corresponding to gravity gives rise to the densest, heaviest substance, *Carbon* (considered as the base of the metals). Of these first simple substances all others are but gradations ; the metals, e. c., are different gradations of Carbon, Chlorine, Iodine, Bromine, Fluorine of Oxygen, sulphureous bodies of Hydrogen. Nitrogen is perhaps an oxide of Hydrogen, as it would seem from its passive demeanour.

A combination of these substances gives rise to the *elements*, of which there will again be three, each corresponding to a substance in particular, with a fourth, corresponding to their totality. These elements are (beginning with the general),

1. The element of . . . *fire* ;
2. The element of *heat* = *air* ;
3. The element of *light* = *water* ;
4. The element of *gravity* = *earth* (*terrestrial element*).

Each of these elements contains the luminar substance, Oxygen, in addition to its peculiar basis, being nothing but ether fixed by the action of light.*

*Oken would have foregone misapprehension, perhaps, by calling his elements the igneous, the gaseous, the fluid, and the solid. They are but different degrees of consistency in the indifferent ether. We need scarcely remind our classical reader, that already the Orphic philosophers, and especially the Agrigentine Empedocles, taught the division of the divine Sphairos (indifferent being, the ether) into four primordial substances : 1. Ζεύς, the fiery ether ; 2. Νέστις, water ; 3. Ἡρῆ, air ; and, 4. Αἰθωνεύς, earth.

Air,

the first concretion, or that corresponding to caloric, is necessarily the lightest and most attenuated, with the slightest coherence of the atoms, and the least fixation of the poles ; therefore, also, the most mobile and the most similar to the ether. It is *actively shapeless*, i. e. the atoms are possessed of the tendency of self-repulsion = *elasticity*.

Water,

the second condensation, in which the fixation of poles by means of light is stronger, and the Oxygen therefore more predominant, is distinguished by opposing to the tendency to universal ethereal sphericity another to individual planetary coherence. Hence the absence of elasticity. — The action of gravity fixed in an ethereal mass finally gives birth to

Earth,

which is characterized by the immobility of the atoms, and their exclusive tendency to an individual centre. This exclusive tendency in one direction produces *Solidity*.

C. — STECHIOLOGY.

FUNCTIONS OF THE ELEMENTS.

FUNCTION OF THE ETHER.

THE activity of the ether consists in combustion. Fire is a combination of a substance with light and heat. The process of condensation is one of combustion ; whence it follows that every planet has once been in the igneous state. “ Vulcanism precedes Neptunism.”

1. Gravity.

The functions of gravity are exhibited in the movements of the celestial bodies ; their investigation belongs to celestial mechanics.

2. Light.

Ether and terrestrial matter are opposed to each other as unity and multiplicity ; ether tends to reduce the differentiated matter to the indifference of its own nature, and *vice versâ*. Whilst light differentiates matter, matter destroys the polarity of light. Light *dies* in matter, and the first residue, so to speak, is Oxygen, which may be termed *corporeal light*. Light provokes its opposite pole in the different bodies ; it *deoxidizes*. (Ex. Nitrate of Silver, Nitric Acid, &c.)

Those bodies which are capable of the same polar excitement which is communicated to the ether by the sun are *transparent*. The continued polar propagation of light through a body with reference to its individual centre is *refraction*. Transparency is not a dead transition of light through matter, but an active luminar process excited there. This momentary luminar excitement is a tendency to deoxidation, and bodies, which do not admit of being deoxidized, are never transparent. Such bodies are *metals* ; the polar action of light is therefore *reflected* from their surface.

It is obvious that the ethereal polarity cannot be propagated through matter without being modified and even partly destroyed. Destroyed luminar polarity is called *absorbed light* ; light in conflict with matter gives rise to a medium state, — *color*. Color is finite, fixed light, the incorporated transition of light into matter.

Pure light, materially conceived, is *White*.

Absorbed light gives rise to *Black*.

Between black and white there is properly but one intermediate color, — *Red*, which is the first material position of the polar ether, and therefore the color of *fire*. It is the *cosmic* color. Besides it there are three *terrestrial* colors : —

Yellow, — red mixed with white ;

Blue, — red with black ;

Green, — yellow with blue.*

3. *Heat*.

The luminar polarity is productive of motion in the ether, and this motion appears as an *expansive* tendency. Light never directly moves the material mass, but only the contained ether which is thereby separated from matter, and exhibits itself as *free* caloric. Caloric is not material ; it is simply a motion in an ethereal substratum.

Heat, according to a definition before given, is a return of matter to the ethereal state. Its generation, in all cases, even by compression and friction, is due to a polar action. — Heat acts spherically, — light in lines.

FUNCTION OF AIR.

Electricity.

AIR, as the feeblest combination of the elements, stands in opposition to the two remaining elements, the

* Oken gives a philosophical justification of the symbolism of colors : "Red is fire, — love ; Blue is air, — faith ; Green is water, — hope ; Yellow is the earth, — the Rigid, Implacable, False, — the only vice in opposition to the preceding virtues." This looks fantastic enough. — The poet Tieck observes (in his *Phantastus*) : "How marvellous, to be absorbed only in a color as mere color ! How is it, that the far bright blue of heaven awakens our longing, that we are moved by the purple hues of evening, calmed and consoled (quite the reverse of Oken) by a golden yellow ? Whence the indefatigable rapture at the fresh green, of which the eye can never imbibe enough to quench its thirst ?"

more solid results of combustion. In this antithesis the air provokes the other elements to decomposition, whilst they, on the contrary, solicit the air to combustion. This is truly an antithesis between periphery and centre, and embodies the process in which the separation of sun and planets has taken place. It is the centro-peripheric opposition between sun and planet elementarily repeated, and this opposition of the air to the other elements we call *electricity*.

Electricity is an action of the periphery or of the spherical limit, the surface, which we have already seen to be dual, + —. Electricity is twofold: electricity of the *solar* or igneous, and electricity of the *planetary* substance, + E. and — E. The aerial substances, when attaining to their intensest electric polarity, will combine, and the result of that combination is *water*.

FUNCTION OF WATER.

Solution.

IN virtue of its peculiar activity water tends to fluidify every thing, — by absorbing air and dissolving solids. Solution is a position of the solid in the polar form, in which an insulation of the individual poles has not as yet taken place. The fixation of poles is therefore destroyed, especially under the influence of the luminar substance, *Oxygen*, contained in the water.

FUNCTION OF THE TERRESTRIAL ELEMENT.

Crystallization.

THE terrestrial element presents the greatest fixation of poles, resulting from the most thorough combustion. It is the ether materially represented as centre, the identification of all polar duality, incorporated *gravity*. In

air the two material principles are *mixed*, in water they are *combined*, in the terrestrial element they are *identified*. This element originates in fluidity in a process of cohesion, termed *crystallization*. The process of crystallization is a polar, luminal process, and therefore *linear*; hence the regularity of *fracture*, &c.

D. — NATURAL KINGDOMS. INDIVIDUALS.

ALL the material substances hitherto evolved enjoy but a universal existence; a further differentiation yields individual things, which collectively constitute the natural kingdoms. Every kingdom of nature is a repetition or a reproduction of the World upon the planet, and individual bodies are but combinations of the elements on the planet according to cosmic laws.

All these combinations have the solid, terrestrial element as their base. Three such combinations are therefore conceivable: —

1. The terrestrial element combined with *water*, or *air*, or *fire*, — *binary* combination, giving rise to quiescent bodies that are only complementary parts of the planet, — *minerals*.

2. The terrestrial element combined with *water* AND *air*, without *fire*, — *ternary* combination, giving rise to bodies with internal motion, — planets in miniature, *plants*.

3. The terrestrial element combined with *water*, *air*, and *fire*, — *quaternary* combination, giving rise to bodies absolutely moving, rotating about themselves, — a universe in miniature, *animals*.

FIRST KINGDOM. MINERALS.

I. MINERALS INDIVIDUALLY.—MINERALOGY.

THE developments of the terrestrial element and its modifications form the subject of Mineralogy. The terrestrial element alone is susceptible of permanent modification, because in it alone we find fixity of polar character. These modifications will be induced in its fundamental substance, — carbon. Carbon may be modified by the two remaining elements, oxygen and hydrogen, or also the entire terrestrial elements may undergo alteration under the influence of the other elements.

The genesis of minerals will determine different classes, orders, and genera. Every distinct chemical combination, every *qualitative* difference in chemical constitution, forms a *genus*; *quantitative* differences give *species*.

We can conceive but four combinations (with reference to carbon) : —

1. Pure carbon, appearing as — *metals*.
2. Carbon combined with hydrogen, — *inflammables*.
3. Carbon combined with oxygen, — *earths*.
4. Carbon combined with both hydrogen and oxygen, — *salts*.

This is the arrangement from a chemical point of view ; another one, more in accordance with quantitative predominance, would place them in the following order : —

1. The terrestrial element admitting of modification by neither air nor water nor fire, — *earths*.
2. The terrestrial element modified by water, — *salts*.
3. The terrestrial element modified by air, — *inflammables*.
4. The terrestrial element modified by fire, and therefore by the preceding two, — *metals*.

These classes, acting upon each other, give the sub-

divisions into *orders*. In every class there will consequently be four orders :—

1. *Earths* :

- a.) Pure earths, not alterable even by acids, — *siles*.
- b.) Earths, corresponding to salts, alterable by acids, and even by water combining with them, — *earths, properly so called*.
- c.) Earths, corresponding to inflammables, of a fatty or sulphurous appearance, and separating into laminæ in the air, — *talcs*.
- d.) Earths, corresponding to metals, becoming caustic in fire, — *chalks*.

2. *Salts* are divided, according to a similar parallelism, into (a.) *Salts proper*, (b.) *Neutral salts*, (c.) *Soaps*, and (d.) *Vitriols*.

3. *Inflammables* : (a.) *Coals*, (b.) *Fats*, (c.) *Resins*, (d.) *Coloring matters*.

4. *Metallic bodies* : (a.) *Ochres*, (b.) *Haloids*, (c.) *Blendes*, (d.) *Pure metals*.

A synoptic view of the parallelism between the *classes*, orders, and divisions is presented in the adjoining table.

II. GEOLOGY.

THE history of the development of our planet, the theory of its structure, its form, and (if we compare it with an organic body) its organs.

I. FORM OF THE PLANET.

CRYSTALLINE structure is the characteristic of the terrestrial element, just as the spherical form is essential to water. The formation of crystals constitutes the vitality of the earth, which is in consequence to be considered as a conglomeration of crystals.

The earth, in the process of its concretion, has generated an infinity of polar spheres, which derive their origin from water. The chief mass of the earth, *granitic rock*, may therefore be said to have originated in a primordial rain. It is, however, nowise to be inferred, that the rotation of the earth, or any other merely mechanical agency, has determined a spheroidal accumulation of small crystals, whose aggregation constitutes the terrestrial strata ; on the contrary, the stratification of the earth has taken place according to the laws of crystallization, being influenced by electric and magnetic processes in the interior of the planet. The direction (bearing) of the different strata is not, therefore, continuous, but interrupted, cropping out here and there in angular projections. Nevertheless, it is very probable that a parallelism of the strata placed in diametrical opposition on different sides of the earth prevails, and that the whole assimilates itself to the form of a rhomboidal dodecahedron.

The crystalline laminæ and edges may have been separated at various places so as to give rise to enormous gaps or fissures, which may be termed primitive valleys.

Analogous fissures, on the small scale, are seen in crystalline feldspar. These would give to the earth an indented, stellar appearance, which, however, by dint of an erosive action of water accumulating in the valleys, &c., would soon be effaced, more irregular forms being substituted. The mountains are thus sufficiently accounted for; yet various other causes connected with the process of condensation may have produced an upheaval of mountain ridges, &c. Such a cause is the generation of steam from water gathered in subterraneous caverns.

2. ORGANS OF THE PLANET.

A. — EARTHS.

THE mountains, which may with propriety be termed the organs of the planet, either exist as they were originally precipitated from the water, or they have been modified through the influence of other elements. Accordingly they are divided into *genetic* and *modified* mountain-masses, the former having attained to their crystalline solidification before the flow of water, — *primitive rocks*, — the latter being aqueous deposits. The primitive rocks have again been subject to alteration

from *water*, thus becoming *Transition rocks* ;

from *air*, “ “ *Basaltic or trap rocks* ;

from *fire*, “ “ *Vulcanic rocks*.

In complete tabulation, therefore, they will stand as follows : —

- a.) *Terrestrial formation*, having originated solely in the crystalline process of the terrestrial element ;
- b.) *Aqueous formation*, . . . *Transition system* ;
- c.) *Aerial formation*, . . . *Basaltic system* ;
- d.) *Igneous formation*, . . . *Vulcanic system*.

a.) *Terrestrial Formation, represented by the Crystalline Primitive Rocks.*

Precipitation, in the dynamical, not in the mechanical sense, is the universal process, by means of which water originates in air, and earth in water. Water was not originally suspended in air, but formed out of its elements; in like manner, earth (i. e. the solid terrestrial mass) has not been thrown down from aqueous solution, but the primitive water, which essentially differed from the element now designated by that name, contained its constituents, and the combination of these gave rise to the solid products. These were *formed* at the moment of precipitation, and not merely separated from the water, as, e. c., common salt deposits itself in sea-water. — The precipitating or formative agent cannot have been a terrestrial one, but must have been cosmic, since all vital processes, all movements, of the planet depend upon its reciprocal action with the sun. This agent is *light*, whose polarizing, crystallifying action is well known.

The action of light is polar; and the different degrees of polar diremption, corresponding to different degrees in the intensity of that action, will determine a difference in the nature of the resulting substances. The greatest polar differentiation must necessarily have taken place at the surface of the earth, whilst in the interior the element will, more or less, retain its identical character, or the poles will be dissimilated. We may therefore distinguish two periods of precipitation in Geogony, that of the identical or fundamental earths, — granitic rocks, — and that of the polar limestone.

Granite.

The three components of granite, quartz, feldspar, and mica or talc, embody the different stages of the polar

influence of light. *Silex*, which in its purity may be called the least differentiated element, enters into the composition of all three of them.

Granite is the geogonic base, and the upper strata are but metamorphoses of it, or rather, individualizations of its elements. A system of rocks with a predominance of feldspar in its more laminar form is gneiss; a predominance of mica gives micaceous schistus. Both these latter formations are products of a more intense luminar action. Between gneiss and micaceous schistus, on the one hand, and granite, on the other, there is an active opposition, which gives rise to a regular stratification of the former, in accordance with definite laws of polarity.

The precipitation of quartz, feldspar, and mica was succeeded by a separation of a proportional quantity of limestone, of which the inferior layers are nowise a mechanical deposit.

b.) *Aqueous Formation. — Transition Rocks.*

The perfect individualization of the constituents of granite occurs in superior strata, the transition formation, consisting of clay slate, argillaceous stone, and argillaceous porphyry. The limestone combines with carbonic acid, and is thereby precipitated above. After this the influence of light effects a perfect separation into acids and bases (mostly alkalies), which afterwards combine in various ways, and are mechanically deposited, giving origin to

Aqueous Deposits.

Here we are again enabled to discriminate between four different formations, viz. a silicious, an argillaceous, a micaceous, and a carbonaceous deposit. The first of these is mainly represented by sandstone, *grauwacke*, &c. The second, the argillaceous deposit, is met with in slates and claystones. Serpentine and similar rocks represent

the micaceous range. Gypsum, finally, carbonate of lime, &c., exhibit the carbonaceous order.

c.) *Aerial Formation.* — *Trap or Basaltic Rocks.*

The interior of the earth may contain vapors or gases either chemically combined or mechanically compressed, and in either case a liberation will take place under the influence of heat. An upheaval of inferior strata will ensue, whilst an actual eruption produces the

d.) *Igneous Formation,* — *Vulcanic Rocks,*

of which deposited lavas, obsidian, pitchstone, dolomite, &c., are instances. — All details here are of course left to the experimental sciences, and in particular to Descriptive Geology.

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B. — METALLIC ORES.

Gangues.

GANGUES are narrow mountain clefts, into which the sun does not penetrate. They are rarely found in granite, of frequent occurrence in gneiss, and they disappear in aqueous rocks. Above they are open, and expand in wedge form below. In these gangues metallic ores are generated.

A metallic ore is a reduced earth, in which the basic principle gains the ascendancy over the oxygen element, and attains to independent existence. This polar reduction is not due to light, and does not, therefore, result from cosmic action; the metallic ore is a child of the earth, engendered without the aid of heaven, embodying the perfect independence of the planet. It is the representative of mere gravity, of the tendency to the individual

centre of the planet.* The polar antithesis, in of which the reduction takes place, is that between two opposite walls of the gangue.

Iron is the first metal in which the transition of to the metallic character is seen. Iron is alive with internal conflict between oxidation and reduction between *light* and *gravity*, and this conflict is *magnetic*.

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C. — INFLAMMABLES.

Electricity.

THE inflammables are reduced acids, just as the bases are reduced bases. They exist in two fundamen-

* The strictest consequences of the philosophy of Schelling, in this respect, are, perhaps, contained in the Anthropology of Henry Steiner. He endeavours to prove that the interior of our planet is purely metallic, as the representative of the mere gravitating and therefore indifferent mass, exhibiting the greatest *indifference* (in the Schellingian sense). The metallic tenants of the deepest (primitive) geological layers, Gold, Silver, Platina, &c. — show the greatest coherence, the greatest *ductility in all directions* (malleability, &c.), the greatest repulsion of the spiritual, differentiating agent, light (reflection, lustre); in the polar antithesis is immediately reduced to indifference, for which reason they are the best conductors of electricity and heat, &c. Gradually in other members of the series of metals the metallic character recedes more and more, ductility in but one direction appears (Iron, Cobalt, Titanium, Manganese, Chromium, &c.); they become more disposed to chemical combination, the metallic lustre is lost, &c., until finally (in Potassium, Sodium, Lithium, Barium, Calcium, &c.) the atoms begin to individualize themselves (brittleness), and tendency to disguise the metallic character is evinced (great affinity for oxygen, &c.). — At all events, a greater regard for obvious facts and characters of the chemical elements would yield most interesting results, of which the recent researches on isomorphism, and, above all, on the effects of crystalline structure exhibited in the polarization of light, give a powerful earnest. May the "mens divinator" of our favored genius soon completely decipher for us nature's purest glyphs in these latter phenomena!

forms : with a predominance of the aerial nature, as *sulphur*, and with a predominance of the terrestrial nature, as *carbon*.

D. — SALTS.

THE presence of a solid substratum intensates the action of light upon the remaining water, and induces the highest degree of oxidation, of which a peculiar acid, that contained in sea-salt, is the product.* Sea-salt is the type of all other salts, and might be termed the universal salt.

Chemism.

Crystallization is the formative, or, to speak figuratively, spiritual, activity of the earth ; magnetism, that of the metals ; electricity, that of the inflammables. The production of salts (corresponding to the limestone period) is attended by a new energy, chemism, which reduces acids and bases, after they have attained to their highest degree of oxidation, and therefore of polar opposition, through the action of light, to their original neutral form, and converts them into a new element. Chemism is essentially a bi-elementary process.

* The chemical reader will bear in mind, that Oken supposes an identity between all the electro-negative elements, which is not as yet warranted by experiment. The above conjecture respecting the nature of sea-salt (which, from experimental analysis, is known to be a chloride of sodium, or, taking into account an equivalent of water, mu-
date of soda) must, as a matter of course, be taken in that sense.

THIRD PART.

BIOLOGY. THE WHOLE IN THE INDIVIDUAL.

I. ORGANOSOPHY.

A. — ORGANOGONY.

IN every combination of two elements, the solid constituent is always in the ascendant, and the product is a dead mineral, in which all further action ceases. In chemism, for instance, the polar opposition between acid and base is destroyed as soon as they have combined, and, there being no third element, no new activity can be roused. When, however, a third element accedes, and the energy of earth and water is associated with that of air, the latter constantly renews the productive activity, reinvigorates the polar tension, and converts the whole into an electro-chemism, or, as it is commonly termed, *galvanism*. Galvanism, a tri-elementary process, represents the planet in its totality, whilst all other processes are fractional.

An individual, self-exciting and self-moving body, which is therefore no longer a complementary part of the planet, but a miniature planet, complete in itself, is an *organism*. The self-excitement of the individualized elements is *life*, and depends upon galvanic action in a uniform mass. All inorganic bodies are fractional, and derive their existence, their motion, their life, from the connection with something exterior; organic bodies are integrals, and contain within themselves all the activities of the planet. From this it follows, that every organic body is alive with three distinct processes corresponding to those in the planet, — a formative process, whose element is the solid, earth, — a chemical process, whose

element is water,—and an electrical or oxidizing process, whose element is air.

One of the last products of the inorganic world is carbonic acid, containing the pure solid element, carbon. This is the basis of all organic developments; when mixed with water and air, so as to form a soft mass, it constitutes the primitive *slime*, a product of the sea. “Light energizes in the sea, and educes salts; it energizes further, and the sea begins to live.” All life is of marine, no life of continental origin; “love has emerged from the froth of the sea.” Slime was formed in those places where the sea was in contact with earth and air simultaneously, therefore in shallow localities near the shore; and it is in such localities that plants, animals, and even man, have taken their birth.

The existence of individual organisms is transient, and their number therefore inconstant. Permanence is to be attributed only to the life of the Universe, which is conditioned by the unintermittent change of its constituents. A return of the individual organisms to the primitive slime forms the transition to a new organism; generation and regeneration are consequently similar, or rather, identical processes.

Every organism is spherical, like its prototype, the planet. The primitive slime consists, therefore, of an infinity of spherules, which, by oxidation in contact with the atmosphere, become hardened, and are thus enveloped in an outer crust, which contains an inner liquid portion. The spherules are thereby metamorphosed into vesicles, and these are the proximate components of the organic world,—a fact attested also by experimental observation. A slimy vesicle may be termed an *infusorium*, which is therefore a galvanic spherule or vesicle embodying a triplicity of processes,—that of *nutrition* (solids), *digestion* (liquids), and *respiration* or *oxidation*

(aerial bodies). No infusorium can live without a fluid medium, or without free access of earth and air. The entire organic world, as is concurrently established by theory and observation, consists of and originates in infusoria, and returns thither by decomposition (when macerated, &c.). Putrefaction is a decomposition of organic bodies into infusoria, a reduction to primitive life, whilst generation is a synthesis of infusoria to superior life.

Slime is, as it were, the ether, the chaos of the organic world ; just as entire nature is a successive fixation of ether, organic nature is a successive fixation of infusorial slime. The seed of both plants and animals consists of infusoria, and generation is truly a repetition of the primitive creative act which first evolved organic forms from this chaos. The generative substances (pollen and sperm) are the total organism reduced to the primordial menstruum, which, in the first instance, as we have seen, arose from a reunion of all the fundamental inorganic substances in an integral mass. This latter process may be called *generatio originaria*, whilst the origination of infusorial vesicles from the decomposition of previously existing organisms is to be termed *generatio equivoca*.

From these infusorial spherules all superior organisms are developed by the energy of heat and light. Ether furnishes the substance, heat the form, light infuses life, polarity, into the body thus prepared.

The life of every organic body consists (as has been already remarked) of three fundamental processes or actions which respectively correspond to the three elements, — the solid or earthy, the liquid, and the gaseous. The first of these is the process of *nutrition*, in which the process of crystallization in inorganic bodies is repeated. Its product is the fundamental, solid mass of the body. The fluidifying process, which is referable to the inor-

ganic action of water, is termed *digestion*, and it tends to convert solids into slime, whose representative is the organic *chyle*. The constant polarity of the organic factor, finally, is maintained by the electric, oxidizing action of the air, in the process of *respiration*. The parallelism of these three processes with the terrestrial activities of magnetism, chemism, and electricity is obvious. Their joint manifestation is galvanic motion, which, inasmuch as it is self-excited within the organic body, serves to discriminate between this and an inorganic substance.

B. — ORGANOGNOSIS. DIVISION OF ORGANIC BODIES.

A **SOLID**, a fluid, and an aerial element have been found indispensable to every organism ; a fourth combination, however, is possible : that with fire.* An organism in which the latter is wanting represents only a *planetary* totality, the totality of earth, water, and air ; whereas the accession of the igneous element forms a *solar* totality, comprising all four elements. An organism of the first kind might be denominated a chemical organism, because it produces material substances ; whilst an organism of the latter nature can be designated as a luminar organism, its activities and products being in every respect immaterial. The planetary organism is the plant, the solar or luminar organism the animal. Their respective physiological derivation is founded upon this, that an organic vesicle which is thrown upon the solid ground experiences the action of light on one side, and therefore solely in one direction, and in consequence

* The scientific reader will not, I hope, be induced, from a mere coincidence of form, to infer that Oken reverts to the old Orphic elements. With him, *fire* is the embodiment of generative cosmic agency.

remains without an individual centre of gravity, its only axis pointing radially towards the centre of the earth; whilst a vesicle remaining and continuing to revolve in the fluid is oxidized and acted upon by light on all sides, thereby receiving an infinity of polar axes or radii, turned towards an individual centre. Plants grow from the ground towards the light; animals, solar organisms, move freely about themselves; they are an incorporation of luminar action. Plants move only when externally solicited; the motion of animals is prompted from within, not excited from without.


The solar or cosmic organism, the true microcosm in the sense of the ancients, comprises, in addition to the processes of the planetary organisms, three others, corresponding to the activities of the ether, — to gravity, heat, and light. Their respective organs, which are no longer subservient to the production of material results, are the *osseous* system, corresponding to gravity, the *muscular* system, corresponding to heat, and the *nervous* system (which polarizes, actuates all preceding systems), corresponding to light.

SECOND KINGDOM. VEGETABLES, PLANTS.

I. PHYTOGONY.

THE development of the individual plant is the subject of phytogony. All development consists in individualization, — the differentiation of the Identical or Chaotic into its separate activities. A system is developed, when all its potential factors are unfolded into distinct systems.

A plant, though essentially a planetary organism, evinces the tendency to solar organization, and in the last stage of its development possesses solar organs besides



the planetary organs corresponding to its true elements. The planetary organs are the *root*, the nutritive organ, the *stem*, the digestive organ, and the *leaves*, the respiratory organs ; the solar organs are contained in the inflorescence, and minister to the purposes of generation. These latter are in a certain sense a prefiguration of animal existence, a transition to a higher organic sphere. The planetary organs form three distinct series, of which every succeeding one repeats the typification of another which precedes. Their relations will be understood from the following synopsis : —

Cellular Organs (elementary).	Anatomical Systems.	Vegetable Members.	Organs of Inflorescence.
<div style="display: flex; align-items: center;"> <div style="font-size: 2em; margin-right: 5px;">}</div> <div> of digestion, — water, — Cells of nutrition, — earth, — Veins or ducts of respiration, — air, — Spiral vessels </div> </div>	Bark (cortex) Liber Wood	Root Stem Leaf	Seed Pistil Flower
			} Fruit.

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A. — PLANETARY ORGANS.

A PLANT may be characterized, with reference to its development, as an organic fluid or as organic water polarized and solicited in two opposite directions by earth and air. Every plant, therefore, tends to the terrestrial centre, on the one hand, terminating in an extreme of 0 polarity (the linear, magnetic root), and to solar universality, on the other, with its dyadic, aerial extreme (the foliage and their electrical surfaces). In virtue of the former tendency, the plant strives to evolve alkaline, metallic products ; the dualistic, polar character is manifested in the production of salts, acids, and inflammables. But not earth and air only energize in the plant through the roots and the upper organs respectively ; but the influence of light is likewise incorporated in the luminar organs of the inflorescence.

Cellular Organs.

A vesicle placed on the ground is affected at its lower surface by gravity alone ; on the upper surface, on the contrary, it is differentiated, polarized, by light. This causes an elongation in two opposite directions, which is continued afterwards by a successive addition of other vesicles. At first, a plant consists exclusively of cellular tissue ; all other forms belong to subsequent developments. The cellular type is the rhomboidal dodecahedron, which shape appears to be due to the compression of every spherule by circumjacent spherules of equal size.

The triangular spaces between the different cells, which in some plants by a concretion of the contained juice form themselves into regular tubes, are called inter-cellular ducts, and it is very probable that in these the nutritious juices ascend.*

The respiratory system of the plants is represented in fine by the spiral vessels, whose peculiar form and position appear to be determined by the relative movements of the sun. The more a plant is exposed to the influence of the air, the higher its rank in the organic scale, the greater also its number of these aerial organs, and *vice versâ* ; they are scarcely met with at all in the lowest classes of plants.

Anatomical Systems.

The cellular tissue is individualized as bark, the indi-

* It is my object to give an exposition of Oken's system, and for this reason I leave the above statements unaltered, though it is well known that the late investigations of Liebig, &c., have assigned the nutritive function (excepting the absorption of alkaline solutions) almost exclusively to the leaves. Oken's Natural History was published in 1839. In general, I remark once for all, that several of Oken's statements will require modification in consequence of the continual advance of physical science.

visualized ducts form the liber, and the spiral vessels constitute wood. The induration of these last takes place sooner than that of any other part, because they are more exposed to the oxidizing influence of air.

The simple tissues and anatomical systems separate again, and predominate respectively in the

Vegetable Members.

The cellular tissues prevail in the *root*, the organ for water,—the veins in the *stem*, the organ for solids,—and the spiral vessels in the *leaves*, the organs for air. The *stem* is a more advanced development of the root, and the leaves exhibit the fullest perfection of both, exposing in detail all the characteristics of the plant. It is on this account that the disposition of the different parts of the leaf affords a clue to the structure of the entire plant. In the leaf the constituents of the plant attain to their highest planetary individualization ; they are there anatomized, spread out with the greatest distinctness.

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B. — SOLAR OR ETHEREAL ORGANS.

HERETOFORE the great law, that every spiritual or formative energy materializes itself in an organ, to which it imparts its own nature, which it stamps with its own impress, has been verified in various ways. Another instance is seen in the appearance of organs which embody the action of light and its concomitant, heat, with the consequent tendency to individual concretion, gravity. In the plant the original parts, when affected with properties of ether or fire, develop themselves so as to form

an organ of light, — *the flower* (corolla) ;

an organ of heat, — *the pistil* ;

an organ of gravity, — *the seed*.

In these organs the cellular constituents appear quite disjointed or individual, only a proximate separation having been effected in the leaves, inasmuch as, e. c., the spiral vessels yet cohere by means of cellular attachments. Another verification of the law, light differentiates, individualizes.

The organs of the inflorescence are a repetition of the entire plant, although originating in the transformation of the leaf, since every organ is developed out of that which is its immediate predecessor. — An identification or reunion of the three individual organs takes place in the fruit, in which the inflorescence returns to the primitive state of the plant. The greatest polarity, the generic opposition, which precedes that reunion, is the antithesis between the pistil and the flower properly so called.

In the flower we distinguish the *involucrum* or *spatha*, corresponding to the root, the *calyx*, representing the stem, and the *corolla*, a transfiguration of the leaves. The corolla legitimates itself as the true organ of light by its color. The green of the leaves is analyzed there; the first separation gives *yellow* and *blue*, of which the former is the color of earth, and belongs to flowers of inferior order or at least of imperfect development, e. c., the early flowers of spring, syngenesia, &c. Blue is the second color, and prevails among the flowers of the temperate zone; those of the torrid zone, where the action of light is most intense, are red, — of the true ethereal hue.

The spiral threads of the leaf insulated are the stamina, in whose vesicular extremes, the anthers, the polar antithesis between the flower (corolla) and the pistil attains to its maximum intensity. The pistil is a repetition of the stem. In the interior of the pistil the root reappears under the ethereal form, as seed. A final blending of seed, pistil, and flower constitutes the fruit,

in which the entire plant is repeated as a unit. Three kinds of fruit are conceivable, according to the preponderance of one of the three elements : *nuts*, *plums*, and *berries*, whose characteristics are ultimately united again in the *apple*. In the nut the seed or kernel predominates, in the plum the fleshy part of the pistil, &c.

Flowerless plants have no seed ; their sporules are only albumen.

II. PHYSIOLOGY OF PLANTS.

THE coöperation of the functions of the plant constitutes its life, which is the subject of vegetable physiology. "Vegetation depends chiefly upon the two cardinal antitheses of the plant between the cellular or radical and the spiral or truncanal systems, between sun and planet, between air and earth, between light and matter, electricity and chemism."

FUNCTIONS OF THE PLANETARY ORGANS.

ALL the primitive substances, carbon, oxygen, hydrogen, and nitrogen, are contained in the plant ; the last, however, only as characteristic of the transition to the animal kingdom. All the elements are likewise active there : the ether, in forcing the root towards the centre of the earth by gravitation ; light, in causing polarity and decomposition and evoking the colors ; heat, in maintaining the state of ethereal indifference, promoting evaporation and capillary attraction, &c. The minerals are represented by silica, alumina, lime, &c. The organic matters may be referred to the inorganic substances : alcohol, which, though not actually present, is evolved from sugar, perhaps represents the ether ; gelatinous matters, albumen and sugar, correspond to water ; lignine, gluten,

starch, and humus, to earth. Organic *salts* are formed with tannin, acetic, benzoic, saccharic, vinic, citric, malic, oxalic, oleic, prussic, and similar acids. Vegetable alkalies are the well-known narcotic substances. The inflammables are fats, oils, resins, &c. Organic ores appear in the coloring matters.

The descent of the root and the vertical development of the stem are due to gravity and light. To the latter agent is also attributable the sleep of plants. The function of the root is the absorption of slimy bodies formed by decomposition, which may be maintained in part by the action of the root. Evaporation goes on from the bark, whilst the absorbed substances are digested, metamorphosed into new cells in the cellular system. The juices are carried along, raised, and subjected to fermentation, so as to secrete the proper vegetable matters, in the intercellular ducts. The free respiration of the plant occurs in the spiral system through its exterior representative, the leaves. — Respiration being the highest vegetable function, and internal motion the only result, the spiral vessels are as important and as significative to the plant as the nerves to the animal.

The motion of the vegetable juice depends upon the polar antithesis between the process of respiration and that of digestion.

FUNCTIONS OF THE SOLAR ORGANS.

THE vitality of the inflorescence consists in the opposition between flower (corolla) and pistil, which is again the antithesis between leaf and stalk, between electricity and chemism, between light and mass, between spirit and matter, — in short, the sexual antithesis. The pollen electrifies, animates, the seed of the pistil, whereby this is excited so as to develop itself. Herein consists the

sexual function. The relation of sex, which is pre-figured from the beginning, is individualized for the first time in the organic body. In the sexual act mind espouses matter ; the spiritual representative, the male principle, is the light which shines upon and vivifies the female principle, the bearer of the Material. Impregnation is irradiation. The material parts of the fruit are furnished by the Female in both plants and animals ; not that the Male communicates no material substance, but that this substance acts but as a polarizing agent, as a ferment exciting a similar process of fermentation in the female substance. In impregnation, a dormant chemical process is awakened by an electrical process. The anthers are the male organs, the pollen being virtually the sperm ; the female organs which contain the germs are the pistils.

In the act of impregnation, heaven weds the earth, the spirit becomes flesh ; and this occurs when the two cosmic principles of the plant have attained to their intensest polarity as flower and pistil. At that moment the plant thrills with self-excited motion ; the plant catches a glimpse of the Eden of animal life ; but at that moment the plant begins to expire.

The seed is the whole plant concentrated to a point, a heavy terrestrial mass, which can undergo change only under the influence of the other elements. That change is germination, and requires the presence of air, earth, and water ; its continuance, growth, depends upon the action of light, heat, and gravity. When all the poles of the plant are independently developed, the growth ceases.

III. PHYTOLOGY.

THE successive position or origination of the different

parts of the plant, or its historical development in time, has been imperfectly traced ; the *idea* of the plant has been conceived. But it is nature's great law, that whatever successively appears in time is simultaneously extended in space. The whole ideal plant, with all the stages of its development, with every individualization of its factors, is spread out before us in the vegetable kingdom. The vegetable kingdom is an exhibition of all the organs of the plant separately, — a visible history of its development, the expression or enunciation of its idea in the multiplicity of its individuals, — the ideal plant anatomized by the hand of nature. The true systematization of the vegetable kingdom is, therefore, but a repeated systematization of the vegetable organs, or a plastic representation of its philosophical anatomy.

VEGETABLE SYSTEM.

ALL difference in the structure of plants is properly founded upon a difference in the tissues, which, first, appear yet in chaotic confusion, — next, separate into concentric or tubular sheaths, encased one within the other, as bark, liber, and wood, — and then, arrange themselves as particular members, forming root, stem, and leaves, which are repeated as seed, pistil, and flower, and, finally, reunited in the fruit, as nut, plum, berry, and apple.

Plants consisting exclusively of vegetable tissues, without sheaths and members, are the acotyledons ; those with sheaths, but without a proper distinction into root, stem, and leaves, monocotyledons ; and, lastly, those with distinct reticular leaves, dicotyledons. — The nobility of a plant depends upon the number of its organs, not upon the more thorough perfection of any of its organs alone.

The natural system of plants will be the following : —

CAUDICARIE. — DICOTYLEDONS.			
PARENCHYMARIE (cells).	SCAPARIE (members).	TRUNCARIE (members).	
	Monocotyledons.	Monopetale.	
Cellulariæ (cells).	Corticariæ (bark).	Radicariæ (root).	Seminarie (seed).
Fungi.	Grasses.	Syngenesious plants, &c.	Ranunculacæ, &c.
Vasariæ (veins).	Albumariæ (liber).	Caulariæ (stem).	Pistillariæ (pistil).
Mosses.	Liliaceous plants.	Stellate, &c.	Rutacæ.
Tracheariæ (spiral vessels).	Lignariæ (wood).	Foliarie (leaves).	Corollarie (flower).
Ferns.	Palms.	Labiata, &c.	Crucifera.
			Nucariæ (nuts).
			Drupariæ (plums).
			Baccariæ (berries).
			Pomariæ (apples).

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In this table, the organ which is especially developed in any class, and characterizes that class, is affixed in English, the underwritten names serving to point out examples, or even the entire class with its usual name.

Parenchymariæ, — *Acotyledons*. — The vegetable tissue forms the marrow of the ideal plant, which is not exposed to light, and consequently without the development of luminar organs. All the plants representing this tissue are likewise destitute of these organs ; they are female plants, the formation of the male parts being impossible, owing to the absence of spiral vessels. They are not cryptogamous, but *agamous* ; they are, at most, large vesicles filled with smaller vesicular spberules, which separate after desiccation, and, when subsequently brought into contact with a fluid, attract other vesicles, so as to form a new system by this accretion.

The parenchymariæ have no root, stem, or leaf, no distinct bark, liber, and wood ; spiral vessels appear only in the ferns, as in isolated string in the interior. Since the seed is of foliar origin, and the true leaves are absent, these plants are devoid of seeds ; they are *acotyledons*. For the same reason they are *anembryons*, without plumulæ ; the sporules are albuminous matter, into which no process of fermentation is induced by heat and light. On that account no saccharine or acid matters are evolved ; the parenchymariæ are organized processes of decay, yielding infusorial slime as the last result.

The simple galvanic process which is active in the infusorial vesicles constitutes also the vitality of the agamous plants, and they thrive in consequence even in the dark, in moist places, &c., with a very limited access of light and air.

The progressive differentiation of the cellular matter causes a gradation in the first region of plants ; the lowest class, the fungi (mushrooms), consisting of brute, earth-colored tissue, or of an aggregation of vesicles, which forms in dark places, and can originate wherever slimy juices are released from the bond of a higher organization, — wherever there is decay. The generation

of fungi is a true *generatio equivoca*; even when a propagation takes place, it is only through the peculiar attraction of the vesicles into which the fungus decomposes itself. — The subdivision of the fungi involves too many details, which must be left to special treatises.

In the second class, the mosses, there is an appearance of intercellular veins, but the spiral vessels are entirely absent. Their color is green; they are water-plants, representing the process of digestion;—the yellow-colored fungi, on the contrary, were earth-plants.

The third class, the ferns, present a fascicle of spiral vessels surrounded with cellular tissue, which yet forms the chief part.

After this now comes a complete dissection of the cellular tissue into bark, liber, and wood; the differentiating action of light and air is more strongly felt, and we have the sexual plants with a regular inflorescence. Here we distinguish

1st. The *Scapariæ*,—*Monocotyledons*,—with sheaths, but without a continuous system of spiral vessels. The spiral vessels which occur are dispersively distributed, —not reticularly connected. The tendency to form branches appears only in the knots of the stem; and the absence of branches causes also an absence of leaves. The apparent leaves are nothing but sheaths that have burst and unfolded themselves. Owing to the same cause, there is no proper corolla, but only a colored calyx. — The liliaceous plants, grasses, and palms are the subdivisions, of which the lilies exhibit themselves as an insulated bark, the grasses represent the venous liber, and the palms the woody stem.

2d. The *Dicotyledons*, in which the spiral vessels are more thoroughly developed and reticularly disposed. Of these the monopetalous plants yet resemble the *scapariæ*; they rarely have regular fruits; generally follicles and capsules.

The hypogynous polypetals are the first that have their calyx, corolla, stamina, and pistils quite separate. — The perigynous polypetals, together with the apetalas and diclinists, develop a perfect fruit.

But I cannot enter into descriptive details ; the annexed table will afford a view of the system.

THIRD KINGDOM. ANIMALS.

THE development of animals, whose genetic history is given in Zoögony, begins where that of plants terminates. The organs of the plant, after being ennobled by light, attained to polar, independent motion at the moment when the ingestion of the male into the female organ took place. The Male in organic nature discharges the function of independent polarity ; its peculiar life and the act of ingestion have for their object the production of independent life. We have seen, that, the instant the plant enters upon this stage of truly animal existence, its own vitality begins to recede ; the cyclus of its existence is complete. If now this last vital act of the plant could be conceived to continue, if this galvanic process could be independently maintained, we should then in reality enter the sphere of Zoögony. An animal might be defined as an independent inflorescence, in which the polar action is perpetual, in which the self-excitement is continual and unceasing. The difference between the origination of a plant and that of an animal, depending upon a difference in position and exposure of the original vesicle, has already been pointed out. An animal is an entire solar system, — the plant only a planet ; “ the former a microcosm, the latter a microplaneta.” The development of every animal requires the fluid element for its free rotation around its individual centre, and the birthplace of the first animals was, beyond question, the sea-shore.

The animal vesicle is an organized sun, whose principle of polarization is inherent ; within it there is the same reciprocation between centre and periphery, which has been observed to exist as the polar action of light between their cosmic prototypes, — sun and planet. The two reciprocating actions — of the centre upon the periphery, and

again of the periphery upon the centre — are *motion* and *sensation*.

The entire animal organism is founded upon the sexual system, and all further developments are but a nobilitation of this basis. This is clear from what has been said concerning the transition from the vegetable to the animal system through the medium of the inflorescence, which latter is the individualization of the sexual antithesis.

It is easily understood, that, since the solar organism is, to speak figuratively, a higher power of the planetary organism, it must also embody the processes and organs of this, — that we are consequently enabled to discriminate in the animal between a planetary and a solar organization. The animal seen under one aspect is a plant in its highest character, its sexual significance; seen under the other, it is an organized sensation. The animal is accordingly endowed with two organic systems, the one *vegetative*, the other purely *animal*.

An analysis of these systems gives a division similar to that in plants, into *Tissues*, *Anatomical Systems*, and *Organs* or *Members*.

I. TISSUES.

A. — FUNDAMENTAL ANIMAL TISSUES.

THE type which has accompanied us throughout the preceding classifications recurs in the animal system. The central part of the vesicle, when individualized and concrete, becomes a spherule or point, and the aggregate of such points constitutes the fundamental mass of the animal tissues. In this the distinctive significance of animals finds its expression. As an organic system, it forms the nervous mass. The texture of the nerves is an agglutination of albuminous spherules, resembling most closely

the primitive state of the semi-fluid solar substance, — endowed therefore with the most variable polarity, and adapted in every respect to the discharge of the exciting luminar function. Though physiologists have generally regarded the nervous mass as the last of animal substances, it is nevertheless that in which all others have originated, of which they are differentiations. It is of all the most indifferent, and on that account polarizable under the slightest aspiration.

The nervous mass, then, is the solar principle in the animal body, which, by repeated concretion, by antithetical dissolution, gives birth to the other animal organs, and, after being thus purified, etherealized, energizes in them as an irradiating agent of heat and motion. The antithetical mass of animal organs surrounds the nerves, whose solar centralization is the brain, in the same manner as the planets form the environment of the sun. As a mere exterioration of a central point, the peripheric corporeal mass must necessarily be spheroidal in form. — The external envelope is the result of oxygenation; in general, all masses highly concrete are the results of an oxygenating process. The most concrete and therefore most solid product is the osseous system; and by reverting to the previous development of the planetary masses it will be seen that this corresponds to the earthy, or rather, silicious, formation in Geology. Obviously, that medium which furthers the process of oxygenation most is calculated also to cause the highest solidification, and for this reason we observe that the bones of terrestrial animals, living and breathing in the atmosphere, are harder and more compact than those whose vital medium is water.

It is necessary and essential to organic life, that the solid bones, which are virtually lifeless and inert, and, as it were, of mineral existence only, surround the vital, spiritual nerves. The most mobile, polarizable substance

presupposes as its counterpart the most unyielding, sthenic matter ; they are opposed to each other as necessarily as the indifferent ether and the most different earth. But just as the latter two require a mediating element, the air, for the purpose of reciprocation, so there is an intermediate product of semi-oxidation, fibrous tissue, through which the motory action of nerves is communicated to the solid bones. The tractile motion in these fibres with its reaction is truly result of polarization ; the polar extremes are alternately attracted and repelled, the nerves being the inducement. — Bones and the fibrous aggregate are terrestrial planetary substances ; the nerves, on the contrary, are solar, cosmic, in their nature and significance.

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B. — VEGETATIVE TISSUES.

AFTER the complete development of the nervous system into the separate forms of centre, line, and sphere, a fourth product can arise only through its degeneration into a vegetable form, the vesicular tissue. This constitutes the link between independent animalism (represented by the nerves, muscles, and bones, neither of which minister to regeneration or nutritive life) and the Universe with its all-pervading vitality. Sensation, motion, and freedom of action, such as they are attributable only to the cosmic All, belong to the truly *animal* elements ; planetary dependence and material interchange with surrounding nature, to the vegetative elements.

The vesicular tissue, when isolated, constitutes the material membranes.

The fundamental tissues of the animal are therefore the central nerves, the linear fibrous muscles, the spherical bones, and the vesicular tissues, and their further separation gives rise to the

II. ANATOMICAL SYSTEMS.

A. — VEGETATIVE SYSTEMS.

THE deduction of the vegetative systems in the animal body does not materially differ from that of the same systems in the plant. In the animal, however, we behold a more marked distinctness in the functions, and greater individualization in the respective organs ; the processes of absorption and circulation, which are jointly intrusted to the vascular tissue in the plant, are here separately performed and represented.

All life depends upon a continuous transformation of inorganic into organic bodies ; the process of absorption and digestion is therefore again the first and principal one.

1. *Intestinal (Nutritive) System.*

The intestinal system is essentially composed of membranous vessels whose inner surface is more particularly absorbent, while the outer surface, being exposed to the influence of air and light, acquires the tendency to decomposition, and is converted into an organ for exhalation or evaporation. This functional antithesis becomes the greater, the more an animal is exposed to air and light ; it is least in those animals whose vital element is water. In its highest stage, the difference of processes induces a change of structure, the outer portions of the membrane becoming indurated, more highly oxidized, and the inner parts retaining the similarity to the soft mucous or slimy form. These, when detached from each other, respectively yield the skin and an intestinal vessel, of which the latter is the organ for water, the former for air. — The first animal is but a nutritive follicle, endowed with sensation.

2. *Respiratory System.*

The constant exposition of the external membrane surface to the action of air within water impresses it the aerial character, and converts it into an organ of exhalation, which is always attended by oxygen. Oxidizing membranes thus formed compose the branchia of the inferior animals, the most of the annelides, mollusks, snails, &c., breathe through the skin, and even the gills of fishes are but a piece of skin. "The branchia constitute the atmosphere, the intestines the sea of an animal."

In a manner similar to the extension and prolongation of the vascular membranes into absorbent tubes, a traction of the branchial membrane forms tubes, which convey air or oxygen towards the digestive vessels. These are at first lymph-vessels of the cuticle, and in higher animals, beginning with the insects, and continuing through fishes, amphibia, birds, up to the highest forms, develop themselves into true respiratory tubes, analogous to the spiral vessels in the plant. A concurrence of these produces the lungs. The respiratory vessels are brought about by "infolding" (folding in) of the skin, which extends throughout the body in various ramifications, tending to central unity, and combining so as to form simple tubes in the more perfect developments.

3. *Arterial System.*

The solid nutritive mass, when modifying the external membrane, calls forth a corresponding system, where origination occurs where the processes of respiration and digestion meet and react, effecting a separation into an aerial and a solid product. This new system establishes a communication between the other two, facilitating continued nutrition of the respiratory, and the uninter-

ed oxidation of the vascular system ; carrying slimy matter to the latter, and conveying air to the former. In fact, the respiratory and intestinal membranes, when detaching themselves from each other, still remain coherent in many places, giving rise to vascular tubes, of which the aerial parts are polar, whilst those corresponding to the fluid element are indifferent. Hence the origin of *absorbent* and of *respiratory vessels*, which are opposed to each other as air and water, as aerial and intestinal membranes. The aerial vessel is a branchia extending to the intestine ; the absorbent, an intestine terminating in the air. Properly, every point of the respiratory and intestinal membranes absorbs, and a tubular elongation of such absorbent apertures constitutes the *lymphatics*. When occurring in the intestines, these are termed *lacteals*.

The preceding developments of the primordial membrane are yet dependent upon, and attached to, their origin ; the vascular system as independent is represented by the *arteries* and *veins*. When the polar decomposition of the slimy mass is not sufficiently rapid to cause it to disappear as fast as it accrues, the remainder, which is now endowed with aerial polarity, will be repelled by the homogeneous respiratory vessels, and attracted by the intestines, these being oppositely affected. Vessels conveying oxidized slime from the respiratory to the intestinal system are called *arteries*. After slime has been reduced to its indifferent state in the intestines, it is repelled by these and attracted by the respiratory vessels, the transference taking place through the veins.

In its functional significance, the artery is a vessel carrying air, but by means of undecomposed slime (blood). Arteries are seen in their purest form in the lungs and the pulmonary artery. — The lungs and the absorbents correspond respectively to pure air and pure water ; the former, therefore, occur only where air is respired, — the

latter, where water is inhaled. Insects, mere aerial animals, have arteries and veins only while in the chrysalid state ; they live without them afterwards.

Just as the artery is a respiratory vessel separately developed, so the intestines are independently developed in the veins. The circulation of the blood depends upon a union of the two, forming a complete anatomical system. — The blood contains all the planetary elements, and is identical in constitution with the animal body.

Since the animal comprises, or rather, is founded upon, the whole vegetable development, it likewise repeats the sexual inflorescence of the latter in all its stages. We have animals, in which, as in the inferior plants, there are no distinct male and female parts (infusoria, whose division gives rise to new animals, in a manner similar to the propagation of fungous plants); others with a matrix analogous to the capsule in plants. An individualization of the sexual organs is of course characteristic of the higher animals.

An attempt to exhibit the parallelism of plants and animals can, with the limited means of observation and comparison at our command, be only in part successful, and must chiefly depend upon the genesis and functional significance of the different organs. The correspondence of the sexual organs and the analogy between the animal lungs and the vegetable leaves are obvious ; whatever else may be given is seen in the following table, in which the corresponding organs, &c., stand in the same horizontal line.

Tissues.		Systems.		Members.		Sexual Organs.
Veg.	An.	Veg.	An.	Veg.	An.	Veg.
Cells,	Animal parenchyma. Absorbents. Cutaneous absorbents.	Rind,	Skin.	Root,	Intestine.	Seed, Ovum.
Veins,		Bark,	Vein.	Stem,	Heart.	Pistil, Matrix
Tracheæ,		Wood,	Arteries.	Leaves,	Lungs.	Flower, Testicle (anthers,)

B. — ANIMAL SYSTEMS.

THE animal is essentially a duality in its organization, — at once a planetary and a solar being. The vegetative systems are reproduced in an ethereal form ; a crystalline (earthy, as Oken calls it), an aqueous, and an aerial system, corresponding to gravity or materiality, heat or motion, and light or polarity, are evolved, constituting respectively the osseous, the muscular, and nervous systems. The elements for this development are furnished by the arteries, the last vegetative product ; their fibrous membranes are the embryo of the muscular, their compact membrane of the osseous system ; a concretion of blood gives rise to the nerves.

 1. *Nervous System.*

The nervous mass is concrete blood ; being in consequence but an arterial system of a higher order, it must be parallel (analogous) to the arteries in their most perfect form, — the respiratory tubes. The nerves are the vivifying principle for the animal and vegetative systems, in the same manner as the respiratory tubes animate the *purely* vegetative systems. Like these, they distribute themselves as fascicular fibres, which afterwards separate and extend in manifold ramifications. The nerves are distinguishable into an arterial and venous mass, — the *cineritious* or *cortical* and the *white* or *medullary* substances. A constant polar opposition between these two substances is maintained, so that the nervous system enjoys an independent vitality.

That portion of the nervous mass, which remains after the transformation of the greater part into membranes, constitutes the vegetative nerves, and these preside over the intestines, vessels, and the sexual organs ; over the last, however, only in conjunction with the animal nerves,

because the sexual organs belong at once to the vegetative and the animal sphere. The animal nervous system is a repetition of the vegetative nerves in greater concentration ; in the former we behold a closed nervous tube, where the vegetative nerves formed only a vesicle separated into reticular filaments. This closed nervous tube is the spinal marrow, whose unital centralization occurs in the brain. This is enveloped by the cranial bones, which are but a modified continuation of the spinal column. The head, the noblest development of the animal organism, is antithetical with the trunk, as an animal with a vegetative formation. In it all the inferior organs are ennobled and reproduced. The muscular system is represented by the muscles of the face, the digestive system by the mouth, the respiratory system by the nose, the limbs by the jaw-bones, &c.

The peculiar function of the nervous system in the animal sphere is *sensation* ; in this, however, though it tends to perfect independence, it depends upon the other systems, with the noblest forms of which it becomes united, thus producing the *senses*. The union of the nerves with the free vascular or membranous system forms the sense of *touch* ; with the intestinal system, the sense of *taste* ; with the respiratory system, the sense of *smell*. These are the senses pertaining to the vegetative systems. There being three animal systems, three senses ought in strictness also to correspond to them ; there are, however, but two, since the muscular and osseous systems are jointly subservient to but *one* purpose, — *motion*. They are represented by the sense of *hearing*. The complete independence of the nerves appears in the *eye*.

2. Osseous System.

Indifferent, deoxidized globules form the nervous mass ; a superoxidation gives calcareous *earth*, the last product

of planetary oxidation. Vesicles filled with this calcareous earth constitute globes, and out of an aggregation of these arises the osseous mass. A vesicular gelatine is changed by oxidation into cartilage, and then similarly into calcareous earth. This process of osseous formation is first seen in the organs of respiratory oxidation, where cartilaginous rings begin to be produced. Bones are ossified intestinal tubes. There are two osseous systems, — the one vegetative, the other animal; the former surrounding the membranous systems (scales of fishes and amphibia, &c.), the latter enveloping the nerves.

In the animal osseous fabric there is a marked opposition between the dorsal and abdominal parts; they are to each other as light and darkness. The dorsal column is a series of rings forming vertebræ; the corresponding abdominal column is the breast-bone (sternum). With reference to these all bones are symmetrically disposed. The number of vertebræ is determined by that of the nerves, for the envelopment of which they are destined. Now the number of the nerves depends upon that of the senses to which they minister; and it follows from this, that the number of vertebræ equals that of the senses. There are consequently vertebræ of touch, of taste, of smell, of hearing, and of sight. The last four belong to the head, and form a system distinct from the vertebræ of feeling, which sense is distributed all over the body, and served by the nerves of the vertebral column. Each of the four vertebræ of the head, which may respectively be denominated vertebræ of the nose, of the ear, of the tongue, and of the eye, consists of five pieces, because the columnar vertebræ consist essentially of the main body, two costal and two transverse processes. To each of the senses of the head there is consequently a correspondent vertebra; the sense of touch, however, comprises the respiratory, digestive, and sexual systems, — breast,

abdomen, and pelvis, — each of which is represented by separate vertebræ. The breast includes the neck, arms, and long ribs. There must be five vertebræ of the arms, corresponding to the five fingers and their nerves ; in like manner, five vertebræ of the lungs or costal vertebræ, since the ribs are a repetition of the branchial arcs, whose number is five throughout the class of fishes.

The five upper vertebræ of the neck, being a transformation of the vertebral arcs, may be termed branchial vertebræ. The three inferior vertebræ of the neck and the two upper costal vertebræ are those of the arms, because the nerves belonging to these issue from them.

The ribs between the third and seventh inclusive are attached to the five pectoral vertebræ, which therefore stand properly as the vertebræ of the lungs. Those to which the short ribs are attached are intestinal vertebræ. We have, moreover, five vertebræ of the feet, the nerves of these proceeding from them, and five sexual vertebræ. The caudal vertebræ correspond to the vertebræ of the neck, and exist on account of the sexual branchiæ.

The symmetrical structure of the trunk exhibits itself, therefore, longitudinally as follows : —

I. MEMBRANOUS VERTEBRÆ.

A. — *Sexual vertebræ.*

- a.) Caudal vertebræ, 5.
- b.) Sexual vertebræ, 5.
- c.) Vertebræ of the feet, 5.

B. — *Abdominal vertebræ,* 5.

C. — *Pectoral vertebræ.*

- a.) Vertebræ of the lungs, 5.
- b.) Vertebræ of the arms, 5.
- c.) Vertebræ of the neck, 5.

II. VERTEBRA OF THE EAR, 1.

III. VERTEBRA OF THE TONGUE, 1.

IV. VERTEBRA OF THE EYE, 1.

V. VERTEBRA OF THE NOSE, 1.

This regularity is observed in the human skeleton only ;
 "animals are irregular men."

3. *Muscular System.*

The intestines recur in a nobler, truly animal form, as the vertebral column ; in a similar manner, the whole vascular system ascends into the animal region, and appears as the *muscular system*. The veins are inductive of the polar process, by which the tubes are affected with two poles and elongated ; they thus become fibres. These appear especially in those vessels that are most exposed to the influence of the air, — in the *arteries*. Besides the external cellular membrane, every artery has two membranes, the one turned towards the slime, the other towards the air, which are tubularly inclosed within each other. The outer one of these tends to become fibre, the inner one to ossify. Thus we have a vegetative and an animal fibrous or muscular system.

Vegetative muscles consist simply of fibrous membranes ; they are situated beneath the skin, and attached to it or to the system of epidermal bones, wherever they exist. (In its more advanced development a fibrous membrane is termed *panniculus carnosus*.)

Animal muscles originate in the oxidizing portion of the vascular system ; they will therefore predominate most in "the hearth of the lungs." It is there that we find the *heart*, — an arterial part with a strong fibrous development, the prototype of the muscular system.

In theory, the muscle can act as an envelope of the bones only, and not of the other parts ; for muscle and bone stand on the same stage of development ; the muscle forms the external arterial surface, the bone the inner surface of the artery.

Bone and muscle are antithetical as earth and air ; the muscle is the polarizing, moving agent, — the bones con-

stitute the polarized, moved mass. — The osseous formation prevails on the luminar or nervous side ; the muscular formation, on the contrary, on the arterial side, or that of darkness. The anterior and dorsal parts of man are related as muscle and bone ; the former, therefore, is more active, noble, powerful, spiritual, than the latter.

III. ORGANS.

ORGANS are defined by Oken as “those parts of an anatomical system which detach themselves and effect a junction with a part of another system, thereby receiving a peculiar function.” Every system will, in consequence, have as many organs as there are possible combinations.

A. — VEGETATIVE ORGANS.

1. *Intestinal Organs.*

THE processes carried on in the intestines are the chemical processes of *solution*, *separation*, and *absorption*. The organ of solution is the *stomach*. Solution is always accompanied by oxidation ; the gastric juice is therefore essentially acid. The oxygen seems to be derived from the *milt* (spleen), which might be termed the lungs of the stomach. This is attested by its situation, its attachment to the stomach, &c.*

The organ of separation is the *duodenum*, which might be termed the biliary stomach. The liver is related to the duodenum as the milt to the stomach. By means of the liver the intestinal canal is implicated with the whole

* Whether Oken is right in this conjecture concerning the function of the milt, physiologists may decide. His view is very extensively rejected ; it is well known, though, that the milt has hitherto been nowhere accounted for, and even adjudged superfluous, which is, of course, utterly inadmissible.

vascular system. Since separation is the principal function of the whole digestive process, the liver is the main organ among all those subservient to digestion. "It represents the centre, the brain, of the digestive apparatus, because it is the flower, the synthesis, of the vascular system." From it proceeds, and upon it reacts, every thing pertaining to digestion. — The pancreas is the implication of the intestines with the arterial system.

The secretive processes are eminently intrusted to the sexual parts ; while one sex endeavours to integrate itself in the other, it becomes *ingestive* with reference to that other, and *egestive* with reference to itself. Secretion is essential to the sexual system. "The kidneys are inverted lungs, or an excretive liver ; the urine-bladder is an excretive air-vessel ; the urinary duct, an inverted glottis ; hence the similarity of diseases in the respective organs. These excrete products of the respiratory system only ; whereas the *sexual apparatus* secretes the products of all systems, of the whole organism, — the organism itself. In the semen the whole male body in a fluid state enters the female part ; in the child, the female as well as the male body enters the world in concrete form."

The *rectum* is the excretive intestine, κατ' ἐξοχήν ; it is therefore the sexual intestine.

The connection of the intestines with the animal sphere is effected in the head. An intestine joined to bones and muscles becomes an organ of *motion*, — joined to nerves, an organ of *sensation*. Throat and mouth form the intestine in the animal sphere. Organs of motion are prehensile ; they are repeated in the head as jaws and teeth. The organs of digestion repeated in the head constitute the salivary glands, representing the chemical process. The saliva is the gastric juice represented in the animal sphere, and therefore solvent. In its significance it is a *poison*.*

* Some very interesting remarks on the *significance* of the different

While the mouth is the representative of the stomach, the connection between the intestines and the nervous system is exhibited in the *tongue*, — the throat, the organ of deglutition, representing the intestine as such.

2. Vascular and (3.) Respiratory Organs.

The combination of the vascular system with the skin, the lungs, the intestines, the sexual parts, and the systems of the animal sphere will each yield an organ.

Developed to independence in the skin, the vessels form organs of respiration, *branchiæ*. These, from being originally but a vascular net on the skin, and therefore subordinate to it, percur all stages of development, till they gain the ascendancy in the form of lungs. At first, they form a double series extending over all the dorsal parts; gradually they disappear behind, and only the *branchiæ* of the neck remain as prototypes of the gills of

organs (their correspondence to special affections of the soul) are made by C. G. Carus, in his *Psychology*, and I cannot refrain from adducing that part which relates to the *poisonous* properties of bile, *saliva*, &c. "Before the organic elements of nutrition," he observes, "can be assimilated to the human organism, their previous organic vitality must be destroyed. There are, in consequence, certain organs, as the liver and the salivary glands, which secrete respectively bile and saliva, whose activity consists in this 'mortification' of organic materials. It is well known, that, in many animals, the salivary glands secrete the most virulent poison. Hence the excitation of these organs in moments when our individuality stands in hostile antagonism to other individuals, — in moments of anger; it is needless to allude to the foaming of the mouth, the effusion of bile, in such crises. There are well-attested cases, where a slight wound inflicted with the teeth by one man upon another has proved mortal." The words of Goethe are then also quoted, who, in his "*Divan*," says of a rancorous and wrathful warrior: —

"The implacable one!
Now poison exudes from his pores,
As from those of the adder, —
As poison is exhaled by the serpent,
Against which no charm avails."

fish. In the crustaceæ the branchial vessels unite at the sides of the body, so as to form foliar mantles, which are even preserved in snails with covered branchiæ. With the nereïdæ they send out foot-shaped elongations; in crabs these indurate, actually forming feet. The feet are therefore branchial fibres that have lost their vegetative function. With many annelides these fibres merely constitute hair or bristles, which are therefore dried branchial fibres. Even the hair of viviparous animals, and the feathers of birds, are such residual fibres. All calcareous and horny integuments seem to be nothing but branchial sheaths, as likewise the scales of fishes. Generally, the whole outer integument seems to be a product of oxidation.

In muscles and snails the skin already begins to transform itself into an independent organ of respiration; in the scorpions the branchiæ are metamorphosed vesicles, partly containing air instead of water. These appear more distinctly in the arachnides, and finally branch out variously in the higher insects, becoming respiratory tubes. The utter prevalence of the system of respiration finally causes a development of branchial outer surfaces in addition to the inner tubes; these branchiæ, however, under the influence of that respiratory oxidation, dry up, and convert themselves into *wings*.

When the process of respiration becomes quite subject to the animal system, its organs appear in the head as nostrils. — An inner organ of respiration presents itself already in fishes as the swimming bladder, which appears to be the precursor of the lungs in the higher animals.

In the liver the connection of the vascular with the intestinal system breaks forth. The liver is a venous organ, antithetical, therefore, with the lungs, producing, on that account, instead of oxides, a basic substance, — the bile. The liver may be termed the brain of the vege-

tative body. The arterial system is organized in the *milt*. The kidneys form the vascular organ of the sexual system.

4. *Sexual Organs.*

Vegetative sexual organs are separate developments of the *intestines*, the *vessels*, and the *gills*.

The sexual organs, *properly so called*, are a repetition of the digestive system in its transition to the animal sphere, or the organs of sense. The female parts are a follicle, with vesicle, stigma, and ovule. And just as the plant repeats itself on a higher stage in the male parts, so also the animal. The animal male parts are ennobled female parts. In the lower animals the former (penes) are numerous, and stand around the ovary duct, in a manner similar to the disposition of the vegetable anthers around the pistil ; gradually, as in snakes and lizards, they reduce to two, and finally, as in higher animals, to one. This organ, at the mouth of the ovary duct, is properly the clitoris, which, in the female, is distinct from the vagina, whilst in the male both are united.

In proportion as the outer parts develop themselves more strongly, the inner parts recede and merely constitute receptacles, in which the ovula, instead of being regularly formed, resolve themselves into slime, — male semen. Such are the testicles ; they originate when the ova are reduced to infusorial slime. The slime is necessarily infusorial, to be active.

Male and female organs correspond to each other ; in the former the *outer*, in the latter the *inner*, development predominates.

The male and female organs being related as flower and capsule, as anther and pistil, as leaves and stalk, as air and water, as light and matter, they will likewise be related as the skin to the intestines, as the lungs to the lymph-vessels, as the arteries to the veins, as the nerves

to the flesh, as the Animal to the Vegetative. Consequently, coition is irradiation, — the highest act of the animal, which is already prefigured in the course of the celestial bodies. The creation of the world is but an act of impregnation ; the origin of all things lies in *gender*, which extends as a sacred, conservative link throughout all nature.

Of the vascular organs in the sexual system, the lungs and the kidneys have already been mentioned.

Animal organs of this system are the feet with the parts pertaining to them : the pelvis, the lumbar, dorsal, and caudal vertebræ.

B. — ANIMAL ORGANS.

THE organs of the purely animal sphere are everywhere penetrated by the nerves, just as the inferior systems by the membranous formation. In the animal systems we have two series of organs : those of *sensation* and those of *motion*, — solar and planetary, central and peripheric organs.

The development of the bones throughout follows that of the respiratory organs. The first osseous product consisted of branchial arcs, or of rings of the aerial tubes ; as soon as these developed themselves into lungs, the branchial arcs repeated themselves as ribs, — pulmonic arcs. These, finally, when completely animalized, or perfected to such a degree that they are entirely under the sway of the nervous system, constitute absolute organs of *motion*. Such organs, then, — the *limbs*, — are “emancipated ribs.” The limbs are the ribs and thorax opened in front ; the arms are a breast repeated in the osseous and muscular system, quite isolated and independent of the intestines and lungs. The arms, folded together by means of the fingers, are a thorax without

intestines, heart, or lungs, destined to hold within their embrace an entire body instead. — In the limbs the fundamental number of the branchiæ once more shows itself; the fingers represent five ribs. The feet of inferior animals, as, for instance, crabs, correspond, not to human feet, but to human fingers. These animals have no feet, but only toes. — According to the three totalities of our body, there are three systems of limbs: limbs of the trunk (arms), sexual limbs (feet), and limbs of the head (jaws).

In the head the whole trunk is repeated; in it both pairs of limbs consequently recur. The upper jaw corresponds to the arms, — the lower jaw, to the feet. The teeth are a repetition of the fingers; “teeth are claws.” The correspondence of the five orders of teeth to the five fingers might be pointed out: the thumb corresponds to the corner teeth, the index to the eye teeth (*cuspidati*), the middle finger to the incisors, the ring finger to the molars (*bicuspidati*), the little finger to the grain teeth. — The limbs being unobstructed in their development, perfect symmetry will be observed by them.

Muscular organs are everywhere concomitants of the bones. There is a correspondence between the muscles of the face and those of the limbs.

Nervous organs are constituted, wherever parts of the nervous system detach themselves and combine with other systems in their most developed form. A distinct process belongs to each system, and an alliance with the nervous system will consequently give rise to a distinct sensation.

Thus the nervous system, in its most perfect coöperation with the vascular system, generates the sense of *touch*, — with the intestinal system, the sense of *taste*, — with the respiratory system, the sense of *smell*, — with the muscular and osseous systems (whose joint function

is motion), the sense of *hearing*. Transformed into an independent organ, the nervous system constitutes the *eye*. These senses, then, are a reproduction of the anatomical systems in the sphere of *sensation*. They represent cosmic processes received into the individual organization, being the means of reciprocation between the individual and the Universe. Their situation is therefore external.

The most comprehensive system of the animal is the vascular system externally exhibited in the skin. Originally, the animal consisted entirely of membranes, and these originated in a uniform nervous mass ; the whole skin, therefore, is an organ of feeling. By means of the skin, the animal becomes individual, — distinct from nature in general ; the sense of feeling — of touch — is that by which the animal distinguishes itself from every thing extraneous.

The intestinal functions, which take place separately in the trunk, become subordinate to nervous influence in the head ; their organ is the *tongue*, which, by means of the salivary glands, &c., appreciates the chemical relations of fluids. Hence the organ of *taste*. — In the same manner, the respiratory process centralized in an organ of nervous sensation furnishes the sense of *smell*.

The last and highest development of the osseous and muscular systems (of which an initial individualization occurs already in the limbs) under the dominion of the nerves yields an organ for the apperception of motion, — the *ear*. This is endowed, not only with separate nerves, but even with a separate brain, — the cerebellum, in which the auditory nerves originate. The ear is progressively perfected with the limbs ; in fishes, where the latter are represented only by the fins, it is yet quite concealed in the cranial bones ; it occurs with greater distinctness in reptiles.

After the nervous system has thus been put into co-ordinate action with the other systems, after it has, as it were, spiritualized them, it finally breaks forth in all its independence, and in the full force of its peculiar function, that of polarization, in the sense of *sight*. The eye is the nervous system in its purest organization. In the eye the brain unfolds itself, in order to turn towards light.

II. PHYSIOLOGY.

PHYSIOLOGY is the theory of the animal functions, therefore of the functions of the animal generally, and of the tissues, the systems, and the organs in particular.

A. — FUNCTIONS OF THE ANIMAL GENERALLY.

THE first act of the animal is the perception of its own totality, — of its equality, therefore, with the Universe. The development of the animal is but a discession, a differentiation, of this general self-apprehension, just as the Universe is but a discession of divine self-consciousness. All other functions are but modifications, different polarizations, distributions of this general feeling, in the same manner as the organs are a metamorphosed nervous mass.

Nevertheless, the feeling of individuality is not one of self-sufficiency, like the original comprehensiveness of the Universe, because the individual is but a complement of the Universe, — a bud that sprouts forth from it. The feeling of *self* is therefore at the same time an apprehension of extraneous objects, — an act of self-distinction from nature. Now the animal distinguishes itself from

nature only by continually detaching itself therefrom ; the life of the animal, then, consists in a perpetual secession from nature. In this manner, a part of nature is separated from nature herself, — nature is converted into an animal. The reciprocation of the two, therefore, consists in this, that the animal constantly tends to assimilate nature to itself. “ The faculty of assimilating nature is termed *irritability* ; when this is accompanied by the feeling of individual existence, and consequently by independent motion, it may be termed sensibility, which, of course, can be predicated of animals only.” Inasmuch as the sensibility of the animal takes its rise in the opposition between the animal and the world, it is parallel to a cosmic antithesis, — that between the sun and the planets. The mutual action of these is a change of poles, a polar excitation. Sensibility, then, depends upon a polar process, in which the animal is thoroughly involved. This polarity is twofold : one between the world and the animal, the other between the exterior and interior of the animal. The former, cosmic polarity, gives sensation ; the latter, corporal polarity, motion.

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B. — FUNCTIONS OF THE PARTICULAR CONSTITUENTS OF THE ANIMAL.

1. *Functions of the Tissues.*

THE primordial granular nervous tissue conducts polarity — the luminar polarity — from point to point, and induces sensibility, which is by no means the effect of a peculiar nervous fluid, or of a nervous vibration, but the effect of a polar antithesis between the Animal and the Universe, — between the brain and the outer skin, — between sun and planet. The transmission of this polar excitement takes place in time, like the transmission of

light.* The globular tissues in bones are in every respect the counterpart of this nervous mass, — the antithetical *dead* correlative of the most mobile substance. The bones are passive, and this is their function.

The function of the fibrous tissue is the transmission of active motion. Every fibre, when in action, is affected with two poles ; it stands between the oxygenated artery and the basic nerve. — The cellular tissue discharges the same function in the animal as in the vegetable. The cells, by alternate contraction and expansion, convey and partly decompose the humors, and are the principal seat of the process of nutrition. This being a crystalline, solidifying process, which never takes place without evaporation, the latter is the peculiar function of the continuous cellular tissue, the skin. The evolution of caloric likewise occurs as a consequence of the chemical changes in the region of the cells.

2. *Functions of the Systems.*

The function of the membranous, intestinal system is the secretion of juices, which are of two kinds : *general*, — diluent mucus, — and *particular*, — the acid, solvent, gastric juice, the basic, precipitating bile, the depolarizing, annulling saliva. Universally, the function of the intestinal system might be designated as *digestion*, whose initiatory act occurs in the mouth by the “ mortification ” of the organic aliment, — a reduction of it to the infusorial state. This mortification is partly *mechanical*, — tearing and mastication, — partly *dynamical*, — poisoning by means of the saliva. It is accompanied by the nervous appreciation of the chemical relations of the alimen-

* The reader will not forget that Oken rejects alike the corpuscular and undulatory theories of light, and assumes it to consist in a progressive polar process.

tary body, — taste, — which, as it applies to liquids only, is a preparatory test of the solubility of the bodies.

In digestion, a deoxidation of the stomach, a neutralization of its acid, takes place ; if no food, no basic neutralizing agent, should be offered to it, the oxygen polarity becomes intense, — *hunger*. A too rapid deoxidation of the stomach, on the contrary, produces *thirst*.

After this digestion in the stomach, a further complete reduction of the aliment to the infusorial state is requisite by means of a putrefying process, which requires a previous separation of acids from alkalies, a liberation of the original slime, which is effected by the bile. The excrementitious matters are separated from the available infusorial chyle. From this the regeneration of the organism is effected, — a repetition of the process which gave birth to the primordial organism. Nutrition, then, is actually a renewed *generatio originaria*.

In the process of respiration the chyle is oxidized, — it combines with oxygen, from which it derives its polarity ; whence the polar opposition between the lungs and intestines, in virtue of which the chyle moves through the lymphatic vessels. Its color then becomes igneous ; it is now blood.

The capillary vessels attract the blood of the lungs, separate it, and, after having reduced it to their own polarity, repel it. The circulation of the blood is maintained only by the polar tension between the lungs and the capillaries, between oxidation and deoxidation. The systole and diastole of the heart are not *causes*, but *effects*, of the circulation.

The functions of the osseous system are merely mechanical. With respect to the muscular system, it may be said that the fibrous contraction is a charging of the two poles of the fibres by means of the nerves and blood. Strictly this induction of polarity belongs to the air,

which in insects and lower animals generally seems to act immediately upon the fibres ; in animals of a complete circulation, however, the arteries convey air in the blood, and then it is this which infuses itself into the muscles in order to charge them. Whenever an artery is tied, the limb is paralyzed. The opposite pole is evoked by the nerves, which, therefore, preside over the voluntary movements of the body.

The original granular nervous substance, when arranged and separated, constitutes the nervous system, and in this new form its fundamental function is necessarily preserved, — that of polarization. This polar state may be awakened in the nerves either by the antithesis between the two nervous substances, or by an influence from without ; in the former case, the result is independent *thought* or *motion*, — in the latter, *sensation*. It would seem that the nerves are sensible to polar excitement in the distance, which is shown by mesmeric phenomena.

The active reciprocation between the extremities of the nerves and the brain lasts during the period of waking ; whenever it ceases, all animal activity is at an end, and *sleep* is the consequence. Sleep can take place only in the animal, but not in the vegetative systems, since the nerves of the latter are in a state of constant polarity from their connection with the vessels, from their ganglionic structure, and their variegated texture.

What, then, causes the cessation of polarity between the brain and nerves ? It has been observed that the brain consists of two substances, the cineritious or cortical and the *medullary* substance ; and it is well established that the color of the former is due to the prevalence of the arterial system within it. “ The medullary mass is, therefore, related to the nervous mass as the chyle to the lungs, as venous to arterial blood, as the nerve to the artery, as the negative silver-pole of a gal-

vanic battery to the positive zinc-pole." Without an adventitious cause, therefore, the brain ought to be engaged in an uninterrupted change of poles, — "filled with incessant lightning-flashes."

Now, during day, light continually acts with a thousand different gradations of brilliancy, color, and intensity upon the optic nerve, and indirectly upon the brain, whereby this is constantly deoxidized, and a fuller and more rapid flow of arterial blood towards the cortical mass comes into requisition. Gradually the supply of this will not be adequate to the demand, and at last, the arterial character of the cortical substance ceasing, the polarity between the cortical and medullary substances is destroyed, and inactivity results. — Those animals that possess the greatest proportion of the cortical substance, and in which the activity of the senses is greatest, e. c., birds, sleep longest; others, in which this cortical substance scarcely appears, always doze, but never sleep.*

As soon as the polarity of the brain has been sufficiently reinvigorated by the influx of arterial blood, the animal awakens spontaneously.

3. *Functions of the Organs.*

The functions of the organs are the joint functions of the systems, just as the organs themselves are their joint developments. The only organs that come under special

* This whole theory, which attempts to establish a dependence of an essential organic phenomenon upon mere external influences, is, to say the least of it, very limited. With the current theories of sleep the inquisitive reader can acquaint himself in any treatise on Physiology; C. G. Carus (Physiologie, I. 291), on the ground that all life and all development periodically and progressively retrace their former paths, — are therefore *spiral*, — defines sleep as a periodical return of the animal into its fetal state. He goes so far as to adduce the *embryotic* posture of animals, especially annelides, amphibia, hibernating vivipara, &c., in corroboration of this view.

consideration here are those of the animal in its *cerebral* and its *sexual* aspect.

The organs of *touch*, of which the most perfect in man are the *fingers*, combine nervous feeling with motion; they serve for the perception of form, and may be termed the organs for solids; whilst the inner chemical relations of liquids, before their actual decomposition, are perceived by the *tongue*, in the same manner as the electrical relations of air, previous to the separation of oxygen in the lungs, affect the sensibility of the *nose*. The objects of these three vegetative senses (as they may be termed), then, are earth (solids generally), water (liquids), and air (gases), or the elements of the planet. The animal senses, on the contrary, are the percipients of the higher relations of the solar system, on which account the term "cosmical senses" may be applied to them. "Through these senses the Universe effects its transition into the animal, just as the planet enters through the terrestrial senses."

The two actions resulting from the communion of the animal with the solar system, through the ethereal medium, are motion and light. The organ by which the atomic motions of bodies are perceived is the ear. These motions or vibrations are not mere oscillations, but consist in a solution of the material bonds that enchain matter. That solution takes place according to the laws of primitive motion, which are, so to speak, petrified in the masses as crystalline forms. Every active law of motion is a liberated crystalline form. Acoustic figures are, as it were, *spectral crystals*.

Hearing is a primitive motion in the osseous system of the ear, which is communicated to the auditory nerves. Sound is a reversion of matter to the ethereal state. Tones are the voice of the Universe, by which it reveals its plans, its universal soul. Music expresses the longing after a return to the primordial idea.

The tones of animals are an expression of their innermost being, of the laws of their nature. The acoustic synthesis of all animal systems is *language*, by means of which man exhibits himself in his ideal lineaments.

The ear conveys to the animal the primitive motion of the world ; the organ of the nervous system, the eye, is the bearer of the cause of that motion and of all cosmic activity, — *light*. The eye is homogeneous in its nature to light, and kindles within itself, in consequence of its own inherent polarity. The act of seeing is the continued propagation of luminar polarity through the animal luminar substance.

“ To see and to be luminous are identical processes in different worlds ; the planet sees in its lustre, — the animal is luminous by seeing.* Seeing is the language of the Universe, — hearing, that of man ; through the former the Universe reveals its thoughts, — through the latter only man. A word is a crystallized thought of man, — an organic body a crystallized thought, a word, of the Deity. Hearing produces consciousness of self, — seeing, consciousness of the Universe ; the former gives rise to *understanding*, the latter to *reason*. The optic nerve is an organized ray of light,† the brain an

* Novalis says : — “ Light is the symbol of conscious mental activity (*Besonnenheit*). According to analogy, then, light is the action of self-excitement in matter. The day is therefore the consciousness of the planet ; and whilst the sun, God-like, animates the centre in eternal self-activity, one planet after another shuts one of its eyes for a longer or shorter time, and refreshes itself in cooling sleep for a renewed life and gaze. This, too, is religion. For is the life of the planet aught else than a worship of the sun ? ”

† We are irresistibly reminded here of the words of the poet : —

“ War' nicht das Auge sonnenhaft,

Wie könnt' es denn das Licht erblicken ? ”

“ Were not the eye of solar nature, how, then, could it see the light ? ” The poet, in this “ naïve ” question, casts a penetrating, intuitive

organized sun, the eye an organized prismatic spectrum."

The sexual functions correspond, on an inferior stage, to the functions of the senses.

Of the male organs, the testicles secrete the semen, which is the whole body fluidified, reduced to the infusorial form. The semen might be termed a fluid brain. In coition the male communicates polarity to the female ovum, from which latter the whole material mass of the generated organism is derived. In the ovum the animal is prefigured. — Already in oviparous animals the secretion of the yolk is distinct from the secretion of albumen; gradually the vessels destined for the latter advance farther towards the mouth of the sexual organs, and become organs for the secretion of milk, — mamillæ, which are but vascular fascicles placed without. Viviparous animals are those in which the organ for the secretion of yolk is quite separate from that for the secretion of albumen. Milk is an animal albumen.

The fecundated ovulum — the germ — may be considered as a vesicle, replete with albumen, in the cavity of the womb. By degrees an "infolliculation" gives the the *amnion*, the embryotic membrane, and the tubular connecting membrane, the umbilical cord. The amnion is the primitive vesicle for membranous developments; continued oxidation produces on its surface blood-vessels, which afterwards separate as a distinct membrane, the *chorion*, — the primitive vesicle for vascular developments. At the entrance of the folds of the umbilical cord there is a vesicle which divides and elongates so as to form the intestines (the *vesicula umbilicalis*

glance into the regions of all modern philosophy. If the being of man were not identical with that of nature, — if he were severed from the world of his perceptions by a complete estrangement, — how could he enter into reciprocation, into communion with it?

in man, *tunica erythroides* in viviparous animals, *yolk* in oviparous animals). Another vesicle at the same place—the *tunica allantoides*—gives rise to the primordial kidneys, to the kidneys properly so called, and to the sexual parts. — Only the vegetative systems take their root in the foetal membranes ; their ulterior development gives birth to the animal systems. — The juices contained in the original vesicles are nutritive ; they contain especially albumen, and are secreted by the inner membrane of the womb, being afterwards inhaled through the surface of the chorion. Towards the end of gestation, a deglutition takes place likewise.

Without following Oken in his exposition of all the developments of the foetus, I subjoin his “parallelism” of those developments with the successive animal classes, which will prove the more interesting to the reader, since, in some recent publications on natural sciences in this country, a similar view has been offered as original,—whether or not without an acquaintance with Oken’s theory, I cannot say. Oken says :—

“The animal in its development percurrs all the gradations of the animal kingdom. The foetus is a successive representation of all the classes of animals.

“At first, it is a simple vesicle, a stomach, like the infusoria.

“Then the vesicle becomes double in an albuminous and shelly part, as in corals.

“After this, a vascular system appears with absorbents, as in medusæ.

“With the regular blood-vessels, the liver, and the ovary, the foetus enters the class of crustacea ;

“With the muscular heart, the testicles, and the penis, the class of snails ;

“With the venous and arterial heart and the urinary apparatus, the class of cephalopoda ;

“ With membranous absorption, the class of annelides ;

“ With the formation of branchial clefts, the class of crabs ;

“ With the formation of limbs, the class of insects ;

“ With the appearance of the osseous system, the class of fishes ;

“ With the development of muscles, the class of amphibia ;

“ With the respiration through the lungs, the class of birds.

“ *The animals are but fetal forms of man.*”

III. ZOÖLOGY.

THE various stages in animal development are represented individually and independently in the animal kingdom, and Zoölogy may therefore be defined as the diffractive exhibition of Zoögonia. The successive organs are individualized in separate forms, which are consequently the complementary constituents of the animal in its perfect totality, — of man. The greater the number of coöperative organs in an animal, the more perfect its organization, and the higher its rank in the organic scale. Development is marked by a multiplication of organs. The animal body consists of a double series of organs, — the outward organs of sense (including the sexual parts) and the inner anatomical systems, of which the former belong to the animal, the latter to the vegetative sphere. As they run parallel to each other, a classification in conformity with either of these series may be made. The organs of the animal sphere are : —

The organs of *touch*, . . . *membranes, skin.*

The organ of *taste*, . . . *tongue.*

The organ of *smell*, . . . *nose.*

The organ of *hearing*, . . . *ear.*

The organ of *sight*, . . . *eye.*

Now the several zoölogical classes will be characterized by the dominance of any of these organs, the others occurring at most in an imperfect degree.

The animals corresponding to the organs of touch, in which the sense of *feeling* alone is decided, consist of membranous formations, and of organs subordinate to these, — intestines ; they are destitute of a tongue, nose, ear, and eyes, in the form in which these organs are seen in man. Such are the so-called avertebrata, belonging in their physiological relations to the sphere of membranous developments, with the sense of general feeling, — *touch*.

Fishes, for the first time, present a tongue which in its structure is analogous to the human tongue ; the nose, ear, and eye being yet imperfect. Their nose is without inner nostrils, the ear without the *meatus auditorius*, the eye without lid and motion.

A communication between nose and mouth is first seen in amphibia, so that the nose is perfect, whilst the ear has no *meatus auditorius*, and no *cochlea* (labyrinth), and the eyes are bare of lids and motionless.

The *meatus auditorius* is complete in birds, together with the *cochlea* ; whereas the eyes are scarcely movable, and exhibit only an inferior lid. Tongue, nose, and the limbs seem to have retrograded.

In viviparous animals the eyes are mobile and covered by two eyelids, without any suppression of the other organs.

This, then, would give us five divisions, to which, however, the animals of the sexual order, which form a subdivision of the membranous animals, are to be added. The divisions, then, stand as follows : —

- I. Animals corresponding to the membranous formation, *Avertebrata*
 - 1. Animals corresponding to ova, . . . *Radiata.*
 - 2. Animals corresponding to glands, . . . *Testacea.*
 - 3. Animals corresponding to mere membranes, *Annelida.*
- II. Animals corresponding to the tongue, *Fishes.*
- III. Animals corresponding to the nose, . . . *Amphibia.*
- IV. Animals corresponding to the ear, . . . *Birds.*
- V. Animals corresponding to the eye, . . . *Viviparous animals.*

The internal parts, the anatomical systems, are subordinate to the organs of sense, and as to their genetic appearance, their origination, succeed each other in the following order : —

- 1. Intestinal system.
- 2. Vascular system.
- 3. Respiratory system.
- 4. Osseous system.
- 5. Muscular system.
- 6. Nervous system.

Their development in the animal gradation will observe this order ; and it is accordingly seen that the animals on the lowest stage are a mere intestine, scarcely distinct as yet from the skin, without vessels or branchiæ. These intestinal animals are composed of at most two concentric, transparent membranes. With the separation of the intestine from the mass of the body, both assume the appearance of membranous vesicles, connected by means of an arterial system, which is again surrounded by a membrane. Hence arise the testacea, — vascular animals.

A repetition of these membranes, with a gradual formation of vascular nets, branchiæ, feet, air-tubes, and

wings, accompanied by a separation of the sexual parts, gives the annelida, — respiratory animals.

Fishes exhibit, for the first time, the osseous system, with imperfect muscles, generally without tendons, and a spinal marrow, whose concentration is scarcely apparent in a brain destitute of the cerebral organs of higher animals.

Red muscles with tendons belong to the amphibia, — muscular animals.

A nervous system, with a brain and cerebellum, and nerves properly distributed, comes forth in birds.

The coördination of all the senses is finally seen in viviparous animals.

There is in consequence a perfect coincidence of the classification of animals with a view to the senses, and that according to the anatomical systems. Every division of animals is on that account determined by two principal organs, — the one vegetative, the other animal. The following table shows the significance of the animal divisions in consonance with these ideas : —

I. ANATOMICAL SYSTEMS.

II. ORGANS OF SENSE.

A. — *Vegetative Systems.*

A. — *Inferior Organs.*

1. Intestinal animals, corresponding to ova, *Radiata*.
2. Vascular animals, “ “ glands, *Testacea*.
3. Respiratory animals, “ “ membranes, *Annelida*.

B. — *Animal Systems.*

B. — *Superior Organs.*

4. Osseous animals, corresponding to the tongue, *Fishes*.
5. Muscular animals, “ “ the nose, *Amphibia*.
6. Nervous animals, “ “ the ear, *Birds*.
7. Sensuous animals, “ “ the eye, *Viviparous animals*.

The ovum consists of yolk, albumen, and enveloping membranes ; the intestines are composed of stomach, intestinal canal, and lymphatics ; hence the further subdivision into

1. Animals corresponding to the stomach,
or to the yolk, *Infusoria.*
2. Animals corresponding to the intestinal
tubes, or to the albumen, *Polypiaria.*
3. Animals corresponding to the lymphat-
ics, or to the membranes, *Crinoidea.*

The sexual parts are distinguished into female, male, and urinary organs ; the vessels into veins, arteries, and the heart ; this gives

1. Ovary animals, corresponding to the veins, *Mollusca.*
2. Seminal animals, “ “ the arteries, *Conchi-
lia, &c.*
3. Renal animals, “ “ the heart, *Brachio-
poda, &c.*

The division of the annular skin into papillæ, feet, and wings, and of the respiratory organs into a membranous net, branchiæ, and air-tubes, gives

1. Papillary animals, corresponding to mem-
branous nets, *Annelida.*
2. Pedate animals, corresponding to bran-
chiæ, *Crustacea.*
3. Alate animals, corresponding to respi-
ratory tubes, *Insects.*

Oken compares the organs and classes of animals with the organs of plants, whence results the annexed parallelism : —

1. Cells,	Stomach,	Yolk,	Infusoria.
2. Rind,	Intestine,	Albumen,	Polypiaria.
3. Root,	Lymphatics,	Membranes,	Crinoidea.
4. Ducts,	Veins,	Ova,	Mollusca.
5. Bark,	Arteries,	Semen,	Conchilia, &c.
6. Stem,	Heart,	Kidneys,	Brachiopoda, &c.
7. Tracheæ,	Respiratory net,	Papillæ,	Annelida.
8. Wood,	Branchiæ,	Feet,	Crustacea.
9. Leaves,	Lungs,	Wings,	Insects.
10. Semen,	Bones,	Tongue,	Fishes.
11. Pistil,	Muscles,	Nose,	Amphibia.
12. Flower,	Nerves,	Ear,	Birds.
13. Fruit,	Senses,	Eyes,	Viviparous animals.

In following up the systemization, we shall have, above all, two great divisions of the animal kingdom, the vegetative systems being dominant in the one, and the animal systems in the other. Oken denominates these divisions *regions*.

A. — REGIONS.

THE animals of the first region with a predominance of vegetative systems, the *avertebrata*, are without bones, muscles, and nerves, and consequently without brain and spinal marrow. Their function is feeling, and they are endowed, therefore, only with the developments belonging to the sense of feeling : papillæ, antennæ, feet, and wings. Of the remaining organs of sense there are traces only ; the head is represented by nothing but the mouth and eyes. The second region embraces animals with bones, muscles, and nerves ; and since the first origin of the osseous system is the spinal or vertebral column, they are usually signated as *vertebrata*. The senses, moreover, are centralized in a proper head.

B. — CIRCLES.

THE next succeeding division of animals is that into *circles*, as Oken calls them, each of which represents or individually incorporates an entire anatomical system. The three vegetative systems — intestinal, arterial, and respiratory — will in consequence furnish three circles in the region of *avertebrata*.

FIRST CIRCLE. — INTESTINAL ANIMALS.

THE intestinal system is the first animal formation, from which the remaining systems have not as yet detached themselves. For this reason, the body of the intestinal animals consists of the primitive slimy, infusorial mass, of a slimy vesicle. A reproduction of these can take place only in one of two ways: either by a renewed division of them into other vesicles, or by the generation of a new vesicle in their interior. These newly generated vesicles are comparable to the animal ovum, and constitute therefore ovary animals. They are all destitute of every other sense but that of general sexual feeling. They are the sexual parts of the plant transplanted into the animal world, a liberated inflorescence, which no longer unfolds itself in the differentiating air, but in the indifferent water. Oken says: — “When nature has progressed to the development of the sexual parts, she leaves the vegetable kingdom, since these parts, being comprehensive reproductions of all the parts of the plant, no longer need the root and stem, but become a root to themselves, and thus enter the water.” This circle comprises the infusoria, polypiaria, and crinoidea, animals which contain the fundamental mass of the sexual parts in free motion, “swimming sexual parts.” The animal processes are not yet distinct in them, but the sexual

functions are at the same time functions of absorption, evaporation, and assimilation, or, in other words, the sexual process is yet identical with the whole process of nutrition. The entire animal organism is contained in these animals, but in chaotic confusion.

SECOND CIRCLE. — VASCULAR ANIMALS.

AFTER the separation of the digestive function from the function of the membranes, that of the vascular system appears between the two. The vascular system of the independent intestine is the liver, which consequently is formed first; next come the salivary glands, another intestinal formation. Again, when the intestines become distinct from the other membranes, the latter will form an outer envelope, — skin, — whose development in the vascular system constitutes the branchial membrane, &c. The sexual parts likewise separate, and become independent ovary ducts and male organs. The animals characterized by the vascular system and distinct external sexual parts are mollusca, cephalopoda, and brachiopoda.

THIRD CIRCLE. — RESPIRATORY ANIMALS.

THE intestinal and vascular systems being perfected in the formation of the liver and branchiæ, as well as in the separation of the sexual parts, the skin is individualized and becomes an independent system of respiration, by the oxidation of which process it indurates to a horny consistency. This induration, however, can take place only in opposition to softer parts, and thus an alternation of soft and hard rings will be seen. "The annular skin is an air-tube constituting an entire body."

At first, the respiratory organs will not emancipate themselves as yet from the skin, the vessels merely form-

ing projected nets, or threads, or leaves, as in worms. Warts are first produced, then nets and foliar excrescences, all of which are branchial forms. Part of these again indurate, and are changed into feet, which carry the truly branchial parts. Crustacea afford an instance. Finally, the skin becomes horny throughout, and internal membranous air-tubes are formed, through which the air penetrates to the inner parts ; — even the external foliar branchiæ harden, and become insects.

As a

FOURTH CIRCLE,

the *vertebrata* may be adduced, for the sake of uniformity in the division.

C. — CLASSES.

A CLASS is the individual organization of a particular stage of development in an anatomical system.

FIRST REGION. — AVERTEBRATA.

FIRST CIRCLE. — INTESTINAL, MEMBRANOUS ANIMALS.

THE animals of the *first circle* on the lowest stage consist, as we have seen, of slime, or the granular, nervous mass, forming a vesicle, which merely absorbs the alimentary matter, like a lymphatic vessel. They are nothing but a stomach, — Infusoria.

On the next stage, an intestinal tube is formed, — Polypiaria, Corals.

Then absorbent tubes issue from the intestines, — Crinoidea.

1st Class. — *Infusoria*.

Vesicles, — aqueous formations just concreting into slime, — which lead a separate life, are the lowest animals ; they are the animal semen, nervous points, endowed with sensation, which include all the animal processes. They originate everywhere in water, because the water is everywhere in polar reciprocation with earth and air, and absorbs them. The outer surface is subject to oxidation, and forms a denser layer, so that the inner mass is reduced by this concretion. A renewed supply of this inner part therefore becomes requisite, and thus arises the process of nutrition, which is subserved by the general motion of the animal, consisting in an alternate elongation and contraction of the vesicle, and a contractile, vibratory movement of ciliar projections, into which the nervous mass is at times modified. — As the infusoria are thoroughly a generative mass, and as they are alive only with an incessant conflict between the organ and its product, between the solid and the fluid mass, they divide generatively, as soon as the mass has been sufficiently augmented.

2d Class. — *Polypiaria*.

The spherical form of the intestinal animals gradually changes into a tubular elongation, and produces animals whose body is a nervous tube surrounded by a membrane. The cilia now become regular threads, whose movement is no longer oscillatory, but serves regularly to introduce the aliment into the mouth. The propagation is brought about, sometimes by the detachment of sprouts and ramifications, at other times by means of ova. The general movement of the animal must needs be one of ejection and retraction of the tube in one sole direction ; this motion being thus limited, the inert slimy mass at one end will harden and attach itself to some solid support.

The tube, moreover, hardens by oxidation, and becomes either cartilaginous or horny. This is the origin of Lithophytes. By an increased oxidation, calcareous earth is secreted at the outer skin, — Lithophytes, Corals.

3d Class. — *Crinoidea*.

The addition of a vascular net consisting of lymphatic absorbents leads to the next gradation, — animals composed of large bladders, in which the occurrence of vascular tubes is the leading characteristic.

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SECOND CIRCLE. — VASCULAR ANIMALS.

As soon as the difference between the inner and outer parts becomes marked, the former separating as intestinal and the latter as cutical organs, there must be a mediating formation between the two, — the vascular system with its veins, arteries, and heart. The implication of the vessels with the intestinal convolutions is exhibited moreover, in the liver, the salivary glands, and the kidneys, the latter in subservience to the sexual parts. These sexual parts are besides developed as testicles and ovaries, both with their egestive ducts.

4th Class. — *Venous Animals*.

At the outset, the chief reciprocating media are veins, with their organ, the liver, — in Mollusca. Then, as arteries begin to appear, they exist only in the venous form, with lymphatic, colorless blood. Regular respiratory organs — branchiæ — are provoked by contact with the liver, and between these organs the heart is produced. The structure of the mollusca is the first that can be compared to a breast. The shells of mollusca are branchial coverings (as in fishes). These animals present the first traces of symmetry; they prefigure osseous formation.

5th Class. — Arterial Animals.

In mollusca, only the entrails, as it were, are perfected, in the shape of the intestinal tubes, the liver, and ovary, together with the veins, an appearance of arteries, and a *membranous* heart. A *muscular* heart, true salivary glands, eyes, jaws, feelers, and true testicles with a penis, determine the class of Brachiopoda. Their ovaries are antithetically separated; one half changes into testicles, and the brachiopoda are therefore termed by Oken "mollusca which are male on one side and female on the other," hermaphrodite mollusca. Generally speaking, hermaphrodites are without symmetry; thus the branchiæ in brachiopoda remain without development on one side, and with them the shelly integument, the stunted remnant of which sometimes presents itself in the shape of a sort of coverlet. When the right side is developed, males are produced; the predominance of the left side, on the contrary, marks females.

6th Class. — Renal Animals.

The only heart which hitherto occurred was the left or arterial heart, which receives the oxidized blood from the branchiæ and conveys it to the different parts of the body; at once now the heart on the right makes its appearance, for the impulsion of the blood into the branchiæ for the purpose of oxidation. That this is characteristic of a higher development is evident especially from the fact, that in higher animals the heart on the right is always formed after that to the left. The first animals with this double heart are the sepîæ. They possess at the same time regular organs of motion; we see fin-shaped processes in Pteropoda, arm-shaped processes in Terebratulæ, feet-shaped processes in Cirrhopoda.

THIRD CIRCLE. — RESPIRATORY ANIMALS.

THE respiratory system, in its highest development through the agency of oxidation, constitutes a distinct division of animals, — the Annelida. The skin is subservient both to respiration and to feeling or touch ; and in both cases it unfolds itself in three gradations. It either becomes simply a respiratory, branchial net throughout, or assumes a horny consistency (in branchiæ, properly so called), or converts itself into respiratory tubes. Again, it either feels with its whole surface, by means of papillæ, or the branchiæ are metamorphosed into horny feet, or into wings.

7th Class. — Papillary Animals.

The respiratory membrane is at first a mere annular skin, without feet ; — in worms, in which the blood is a colorless lymph, — where the skin again discharges all the nutritive and digestive functions, so that the vessels, the liver, and the salivary glands are once more wanting. Further on, the arterial system gains the ascendancy, the blood reddens, &c. The class with these characters includes Nereides, Aphroditidæ, Serpularia, Holothuria, Hirudines, &c.

8th Class. — Pedate Animals.

The transformation of the branchial parts into organs of motion introduces us to the class of Crustacea or crabs. The branchiæ at first tend to form a separate organization, a separate breast, when the intestinal parts likewise form a distinct sexual body, though in both the annular form is retained. A general induration, however, takes place (on account of the separation of the branchial nets), including the branchial threads, the subsequent feet. The quintuplicity of the branchiæ is here very

obvious ; ordinarily there are five large pairs of feet at the breast, and as many smaller ones at the ventral parts. All the animals of this class have eyes, a heart, arteries, veins, &c. They are an analogous repetition of the Corallia and Conchilia ; hence their hard, crusty integument, from which they derive their name, — Crustacea.

9th Class. — Alate Animals.

Annelides, whose branchiæ have transformed themselves, partly into respiratory tubes, partly into wings, are insects. The first characteristic separation of organic parts in this class is that of the animal into a ventral part, breast, and head, between which the only communication is ordinarily a narrow tube. The ventral parts contain the intestines, tubular sexual organs, and air-tubes ; the feet of these parts disappear entirely, the number of those at the breast likewise diminishing, on account of the development of the wings. The breast never carries more than three pairs of feet and two pairs of wings, exhibiting itself thus as the bearer of the respiratory organs, which have developed themselves into limbs. It has already been said, that the so-called feet of insects are properly but branchial or costal arcs, and to be compared to human fingers, whence also their greater number, although they already prefigure regular jointed limbs. The wings are detached molluscous branchiæ, which accounts for their position on the dorsal parts, and for their number (four). The wings of birds, on the contrary, are feet or arms, and consequently no strict analoga of the wings of insects, which latter are everywhere pervaded by respiratory tubes, attesting their branchial origin.

Whilst the branchial (pedate) animals which live in the water possess a complete system of circulation, the arterial tubes in insects become almost entirely subordi-

nate to the respiratory function. The whole insect is an aerial organ ; all the individual organs breathe immediately. The head is a repetition of the feet, and perhaps of the wings, which latter seem to be represented by feelers. The eyes, which occur in numbers, are nervous papillæ beneath a transparent membrane ; the function of hearing appears to be intrusted to feelers, since the insects call each other by means of sounds, though there is not a trace of ears, properly so called. The nose, being the anterior mouth of the vertebral canal, which does not belong to inferior animals, is of course absent. The propagation occurs by means of horny eggs.

Insects are respiratory animals represented in their greatest discession, — developed into distinct motory organs, limbs. They unfold themselves gradually to this stage, and therefore percur all the preceding stages of this circle previous to their perfection, being first annelides (worms, caterpillars, moths, maggots, grubs, &c.), then crabs, and finally complete insects. On the first stage, as larvæ, they are mere intestinal animals, discharging the function of nutrition, and no other. The next stage exhibits the incipient horny induration of crabs, the nymph or chrysalid being but an embryotic crustaceon, from which at last the insect in its perfection creeps forth. (It will be remembered that the embryotic development of all animals is a gradual advance to the successive animal stadia, which in this case is so palpably exposed. In Crinoidea, too, this is very obvious ; they originate as Infusoria, change next into Polypiaria, and appear only after this as Crinoidea. Naked snails, likewise, when fresh from the egg, have a molluscous crust, which disappears afterwards.)

SECOND REGION. — VERTEBRATA.

FOURTH CIRCLE. — VERTEBRATE, FLESHY ANIMALS.

THE system of motion and sensation, which we have seen under its highest form of development in the preceding class, now assumes another aspect : in the spheroidal form of the bones, the fibrous form of the muscles, and the granular form of the nerves. At the same time, the organs of the head — tongue, nose (no nostrils of any kind occur in the lower animals), ears, and eyes — are fully developed.

10th Class. — *Osseous, Lingual Animals.*

The osseous system, the first in the truly animal series, makes its appearance in fishes. In these no complete separation of the animal systems is as yet attained ; bones, muscles, and nerves are rather a gelatinous matter, tending to more concrete forms. The bones are often only a white cartilaginous or tendinous mass ; the muscles yet resemble the white, fibrous formations on the intestines ; and the nerves present themselves as a thick, pulpy, adipose substance, whose concentration in the brain is scarcely analogous to that of superior classes. No union of the muscles into tendons is seen.

The dominant organs of fishes are those of the pelvis, the sexual organs, and the chief organ of motion, the tail. The intestinal form is yet preserved in the sexual parts. The ovaries are two follicles, on whose sides infusorial grains (spawn) deposit themselves ; even the testicles are such follicles, containing the milt. Only after the development of the head, the sexual parts are formed with their peculiar lungs, — with the kidneys and the bladder.

The intestines begin to divide themselves into a smaller (duodenum, &c.) and larger (cæcum, rectum, &c., in higher forms) intestine ; the milt appears likewise.

In the imperfect breast of fishes the branchiæ or gills with their coverings resemble the branchiæ of mollusca and their testaceous integument. The branchial structure, which opens into the mouth, is an incipient air-tube or trachea. The branchial arcs appear to prefigure the branchial formation of more advanced animals, and not the lungs, so that the development of the trachea is prior to that of the lungs. The so-called lungs of fishes are yet separate from the trachea or windpipe, and appear as an aerial swimming bladder.

The skin of fishes is slimy, and covered by scales, remnants of the branchial developments in insects, of wings. A beginning of limbs is beheld in the fins.

As to the organs of the head, the fundamental priority of the nerves is again verified in the leading development of the eyes, which are, however, motionless and coverless. The ear is scarcely external, and ministers to inferior organs,—the branchiæ. The vertebral canal occurring, the nose is as a matter of course developed also, but without uniting itself to the respiratory system, which circumstance serves to distinguish the fishes from amphibious animals. The tongue is rather an organ of touch than of taste ; it aids deglutition.

11th Class. — Muscular, Nasal Animals.

The muscular system succeeds the osseous fabric in its genetic perfection ; it is represented by Amphibia, whose red muscles constitute distinct parts in the head, ventral region, and a tendinous tail. They are, moreover, characterized by a regularly perforated nose ; the breast becomes more spacious, the swimming bladder of the fishes develops itself symmetrically, unites with the branchial head of the windpipe, and opens through the nose. Thus a regular respiration can now be carried on, although it is as yet very faint, and subordinate to digestion.

The scutiformed glandule, which is yet absent in fishes, now appears upon the separation of the branchial vessels from the branchial arcs. In the circulation of the blood, though complete, the venous is yet indistinct from the arterial blood ; a mixture being effected through an aperture in the partition between the two chambers of the heart, which corresponds to the oval aperture in the heart of the human *fœtus*.

The digestive organs of amphibia are the same as those in fishes, — intestine, liver, and milt, — though the digestion is more energetic, and often aided by poison. The membranous structure of the sexual organs now becomes glandular at the extremes ; true testicles and ovaries originate. The ovary ducts concur in a matrix, and the seminal ducts are often developed as a penis, remaining separate in snakes and lizards, and growing together in turtles.

The mere vertebral column in fishes (in which it is sometimes unaccompanied by lateral processes) branches out regularly in this class, forming actual ribs or feet. — Amphibia are a repetition of corals, snails, and crabs, — hence the analogy of the outer integuments.

The eyes are without motion, and the lids quite imperfect, the lower one only serving as a cover. The external meatus auditorius is rarely exposed, the auditory bones grow together, and the labyrinth is altogether absent. Amphibia produce sounds in the lungs, but no tones. Their tongue is soft, fleshy, and smooth, but generally split.

12th Class. — *Nervous Animals.*

The complete development of the nervous system, with an appropriate brain, and the full disclosure of the ear, characterize birds. The head detaches itself here completely from the chest ; a long neck is interposed, and the brain divides itself into the cerebrum and cerebellum,

assuming at the same time regular convolutions. Birds repeat especially the insects.

The reigning part in birds is the breast, to which the intestinal and sexual bodies are subordinate. The lungs are so constructed, that the air, through numerous apertures, can penetrate into all parts of the body; "they are an aggregation of tracheæ, as they occur in insects." Whilst in fishes the lungs were a simple aerial bladder, a real intestine, which appeared double in amphibia, they are now insect-like, divided into aerial veins. "The whole bird is a respiratory organ."* Hence the great ossification, the number of ribs, and the penetration of air into the bones, and the great tendency to the production of limbs, which are here exposed in the greatest variety. There are two sets of limbs, ventral and pectoral, which are coördinate, so long as only the ventral cavity of the breast is developed, — destined, therefore, for walking and swimming. When the breast, however, becomes aerial, the pectoral limbs are impressed with this character, — change into wings. The wings of birds are fleshy insect-wings; or rather, the wings of insects ingrafted on the feet of amphibia, each feather corresponding to a separate wing.

Nowhere does the ear exhibit itself more palpably, as the appreciating organ of motion, than here. The full development of the ear appears with that of the organs of motion. "The bird is an animal of song in full organization; in its nature attains to a complete hearing and speaking."† Or, to use an expression of Feuerbach, "In

* Every one knows that birds whose windpipe is tied up can be made to respire through an aperture in the humeral bone of the wing.

† "Song," says Henry Steffens (*Anthropologie*, II. 332), "is a respiration in a higher, purely spiritual atmosphere, in which not only human ideas, but likewise the anticipatory feelings of the organic world, are expressed. Music is the atmosphere in its normal arrangement,

the song of birds, the animal kingdom celebrates its constitutional day with trumpets and fifes."

Of the sexual parts, the kidneys are symmetrical and large. It is a strange phenomenon, that the intestine opens into the bladder, thus likewise evincing a pulmonic analogy. In these sexual lungs (the bladder) the seminal and ovary ducts also concur. In the eggs, the yolk is quite distinct from the albumen, of which the former is secreted directly by the arteries, and the latter in an ovary duct, which is subsequently metamorphosed into menses.



FIFTH CIRCLE.—SENSUOUS (VIVIPAROUS) ANIMALS.

13th Class. — *Sensuous Animals.*

WHEN all subordination of the organs of sense ceases, when they become independent, and the nervous system rises in command over the other systems, the organs alone determine the character of the animals. In birds the whole body was subservient to the breast, in amphibia to the ventral parts, in fishes to the sexual sphere, in insects to the aerial tubes; now it becomes entirely ministrative to the system of senses or the head. The higher senses determine the anterior part of the head,

the organic form in its origination." Again (p. 348): — "Music merges every thing visible in the ocean of invisibility, *dissolves all existences into their process of origination*, so that every form vanishes while it is born, and is born anew in its evanescence." — We cannot suppress the following remark from the same place, though it does not properly belong here: — "Music and the plastic arts are the elements, air and earth, the Mobile and the Rigid in their deepest significance; where they interpenetrate in intimate reproduction, the delightful vegetation of poetry is generated. It breathes life and motion into the mute form, causing it to speak, and, on the other hand, draws the shadows dissolved in the restless motion of music from the abyss, giving them a determinate shape."

and since the former, in the higher developments, are muscular, the latter becomes muscular also, and therefore mobile. The eyes, too, are capable of motion and regularly covered ; the ear, though it percurs many phases, is internally complete ; the trumpet, cochlea, the auditory bones, &c., are all distinct. The nose occurs in various modifications ; in whales it seems to be rather an organ for respiration than for smell ; in other animals it prolongs itself into a muscular trunk. The tongue, though commonly fleshy and soft, is sometimes covered by a hard skin, or studded with horny projections, so that the furtherance of deglutition seems to be its chief function. The mobility of the lips is likewise inferior in many animals of this class. The limbs are subject to great variety ; as to the toes, the normal number is five, from which, however, there are many deviations. The claws are perfectly repeated in the teeth of the jaws, — a formation which is very imperfect in all inferior animals. — As a counterpart to the perfect eye, the sense of touch is perfected in the skin, which receives a separate system of muscles. Its covering, the hair, grows out of the capillaries. “ The fur of animals is the peripheric union of the vegetal and animal ; it is the vascular system, — the fundamental system of the whole body, — overgrowing the entire animal.”

All the animals of this class breathe the air immediately, by means of a costal motion, whence also the system of ribs is complete. All have cellular lungs, a diaphragm, a trachea with cartilaginous rings and a scutiform (thyroid) gland.

A greater distinctness of the intestines is another characteristic of this class ; the cœcum is very distinct. The stomach is membranous, not acting mechanically, therefore, as in inferior animals, but chemically. Liver, milt, &c., occur everywhere in this class.

The sexual organs are very perfect, inasmuch as we universally find a penis, a matrix, trumpets, and separate ovaries. The organs for the secretion of the ova separate; the one remains vegetal, the other enters the purely animal sphere, developing itself into mammæ.

Perfect equilibrium in the system of the senses, which are perfect in their form of development, mobility, &c., appears in the organization of man. It were superfluous to mention outward characteristics; perfect bodily freedom in the erectness of his posture, eyes with parallel axes surveying the whole horizon, are amongst the most striking. "Man sees the whole Universe; whilst animals behold only individual and different parts with eyes laterally directed, so that their ideas are never brought to unity."

Oken distributes human kind in five races, in conformity with the most prominent development of the organs of sense:—

<i>Homo cuticularis</i> , <small>feeling</small>	African,	Æthiopian.
<i>Homo lingualis</i> , <small>speech</small>	Australian,	Malay.
<i>Homo nasalis</i> , <small>smelling</small>	American.	
<i>Homo auricularis</i> , <small>hearing</small>	Asiatic,	Mongolian.
<i>Homo ocularis</i> , <small>seeing</small>	European,	Caucasian.*

* However ingeniously this classification (which materially coincides with that of Blumenbach) be supported, it will, I fear, scarcely meet with any other praise than that due to one of the first attempts at determining the races from a higher point of view. The same is to be said of the classification of C. G. Carus, who regards each race as a permanent representative of a particular epoch in the development of mankind. The advance of civilization, &c., being, according to him, symbolized in the march of day from East to West, he classes the races as follows:—The *nocturnal* (corresponding to night, Æthiopian),—the *diurnal* (corresponding to day, Caucasian),—the *matutinal* (corresponding to morning twilight, Malay and Mongolian),—and the *vesperal* (corresponding to evening twilight, the American).—For the purposes of a history of civilization, the division adopted in an excellent recent work by Gustav Klemm (*Allgemeine Culturgeschichte der*

IV. PSYCHOLOGY.

THE preceding adumbrations have vaguely traced the successive differentiations of the ethereal nervous mass, from which the various animal systems and organs were evolved, until their final coördination produced the totality, and their concentration the organized unity of nature, — man. A similar differentiation of the general *feeling* belonging to this nervous mass into individual affections and faculties up to their reflection into a final unity would give the history of the mind, and might be appropriately termed Psychology. We will endeavour to reproduce, as intelligibly and briefly as possible, the propositions of Oken on this subject.

The only spiritual manifestation in intestinal animals is the passive sense of feeling, the mere appreciation of resistance, without reference to their own individuality; they consist of naught but the gelatinous nervous substance, devoid of any individual organization. “ Their life is a vague mesmeric state; without senses, they see, hear, smell, taste, and feel every thing simultaneously, with an only organ, the intestinal mass.”

Arterial animals already present distinct systems and organs of sex, digestion, and taste, and therewith distinct

Menschheit, Vol. I. — III.) appears to be highly appropriate. It is simply that into an *active* and a *passive* race; the former (embracing only the so-called Caucasian race) marked by restless activity and aspiration, progress, and the spirit of doubt and inquiry; the latter (comprising all the remaining races) by an absence or an inferiority of these characters, and by a colored skin. — Abstracting from all inductive accuracy of the classification of Carus, we are almost tempted to a poetic belief, when he makes the American Indians the representatives of the evening twilight. Yea, evening is breaking in upon them, — we read it in the numerous monuments indicative of a formerly flourishing civilization among their ancestors (or *predecessors*, according to some), — in the gloomy, melancholy expression of their countenance, in which the mourning for “ brighter days gone by,” and the boding of their complete extinction, seem to be stereotyped.

spiritual functions. The vascular system seems to embody organs for spontaneous feeling ; the digestive centre, the liver, is the organ for mesmeric functions, and in it the power of anticipation (presentiment), melancholy and choleric affections appear to be resident. "The liver is the dormant, the brain the waking soul. In the former, the mind broods for years without consciousness, in order afterwards to manifest itself as caprice, imperiousness, or dejection, but also as earnestness and power." The apparent characteristics of mollusca and snails are deliberation and caution. "Whoever looks at a snail imagines himself beholding the prophetic goddess on the tripod. Certainly, the snail is a sublime symbol of the mind in its profound internal slumber." * But in addition to this, the functions of taste and of sexual enjoyment carry with them gluttony and lasciviousness.

The respiratory function leads to courage and strength in the corresponding animals. "Health, magnanimity, and heroic courage dwell in the respiratory breast. Insects are the bravest animals on earth." But the simultaneous keenness of smell produces likewise false and wary cunning. Most obviously, the great development of the motory system in insects gives rise to the instinct of art. This sense of symmetry always accompanies great motory power ; we see it reappearing in birds, after it had vanished in fishes and amphibia.

With the division of the animal body into head and trunk, self-antithesis, self-distinction, enters the animal sphere ; the animal becomes endowed with consciousness of its own state, and with memory, the repetition of this consciousness. The latter belongs especially to

* Both Oken and Carus (Vorlesungen über Psychologie, p. 44) conjecture that this is the true allegorical import of the frequent adjunction of snails to ancient works of art, with which so ugly an interpretation has been sometimes connected.

osseous animals, — the fishes. They are, moreover, like the mollusca, full of presentiment, entering upon the longest journeys, and pursuing their prey for miles. For the rest, they are “phlegmatic.”

A greater power of comparing recollections induces the character of deliberation in muscular animals, — amphibia. Their sense of smell, moreover, spiritualizes itself in their peculiar *lurking*. “The scanty courage derived from their feeble respiration becomes impudence ; they are but hungry heroes.” Amphibia are melancholy.

In nervous respiratory animals, — birds, — the prominent sense is that of hearing. Hearing is the sense of the Vague, of the destruction of matter ; it leads to fear, but it awakens joy in the distinct apperception of tones. Birds are sensible of “a relation between the organ and its spiritual activity, its ethereal symbol.” Tones are but spiritual dissolutions of the material organ. Birds dream. They are sanguine.

The further association of these faculties with the “soul of the eye” produces distinct apperceptions. Understanding (without a combination, however, of perceptions, without judgment) can scarcely be denied to dogs, horses, elephants, &c. ; their pride, shame, fidelity, enmity, and revengeful spirit could otherwise be scarcely accounted for. Such animals are choleric.

The full and final transparency of the animal, which sees all its organs objectively before itself, and hearkens to the dissolution of its own organization in symbols, becomes complete self-consciousness, self-intuition. “Man is the universal spirit, his language is the language of the world ; in mankind the world is individualized.” “The interpretation and comparison of all cosmic symbols is *Reason*.” “The Understanding compares only the symbols of tones ; *Reason*, the symbols of light.” “In man

feeling becomes consciousness, self-consciousness ; understanding becomes reason, passion becomes freedom, the instinct of art becomes the sense of art, comparison becomes science."

Art is the exhibition of the senses in nature ; now the sense is the last will of nature, and hence art is the exhibition of nature's will. Whatever exhibits the will of nature is beautiful ; all mere imitations are destitute of beauty. Art is universal. Whatever exhibits the whole world in a piece is beautiful. The highest beauty in nature is its universal piece, — man. Man expresses the goal of nature's will. It is the object of nature to return into herself. The human countenance repeats the trunk most perfectly. Now that human countenance is perfectly beautiful, whose nose — the vertebral column of the face — runs parallel again with the dorsal column. No human countenance presents this beauty, but the nose makes invariably an acute angle with the spine. The facial angle is ordinarily 80° .

All the beauties of nature are united in man. Nature, too, may be beautiful, inasmuch as she represents individual ideas of man. — There are but two senses for art, and consequently only two artistic spheres, the *plastic* and *musical*, or the sphere of *form* and of *motion*, of which that of form exhibits the material universe in its ideas, in its will, and therefore in its freedom.

The ideal exhibition of the material universe is *architecture*. The plastic exhibition of heaven is the temple ; that of the planet is the house. The representation of the Individual is *sculpture*. Sculpture revealed, repeated in light, is *painting*. Painting exhibits the symbolism, the nullity of the world, and is spiritual even in its lowest forms. Sculpture is the art of the pagans, whose gods are men ; painting that of Christians, whose men are gods, saints.

The art of motion may exhibit either the material or the spiritual motions of the Universe ; the representation of the former is *dancing*, that of the latter, *music*. The ideal exhibition of "mimics" is poetry.

Science is the exhibition of the world of reason. The first science is *linguistry*, the *architecture* of science, "the earth"; the second, *oratory*, the *sculpture* of science, "the stream"; the third, *philosophy*, the *painting* of science, "the breath." The fourth, last, and highest science is the *science of war*, — the art of motion, of mimics, of music, of poetry in science, "light"; it is the art of liberty and justice, of the happy state of man and humanity, — the principle of peace.

HEGEL.

NATURE had now been recognized, by Schelling and his followers, in history, and history in nature ; the eternal mind, the innermost spiritual being of man, in the material world, and the activities of the material world in the mind. If Locke had annihilated the mind, in beholding there nothing but the shadowy projections of external realities upon a primitive blank, and, as if to avenge it, Fichte had again made these external forms mere evanescent projections from the depths of the mind, it was now understood, that the mind only expanded itself, evolved its faculties, in concentrating outward existences, that its exterioration was simultaneously an introversion, a descent into the depths of its being. This then led to the expiration of absolute idealism, with its independent, innate spiritualities, on the one hand, and of absolute materialism, with its gross actualities, on the other. For the energies of the mind are called into existence by material objectivity, and the external world attains to its true reality in the intelligence of the mind. The world exists not in, its truth, unless it be thought by its organized intelligence, man, who is, as it were, the eye with which it surveys itself.

This higher unity of mind and nature was the grand "*apperçu*" of the Schellingian philosophy, but it was from its nature intuitive, and its only authentication depended upon the genial intelligence of the philosopher and

the form again to resolve itself into an idea. The answer to this question is the philosophy of Hegel. It is demonstrated, that the great motive principle in the absolute is its inherent self-opposition. The Absolute, which all things live, is not, as with Schelling, the identity of two spheres ; it is the eternal *spirit, the self* in nature and history. Its being is a *process*, since it is the absolute substance, a process which is itself both for its material and for its object or end. In dualizing itself, it yet remains in its eternal unity. Figuratively speaking, the fundamental ether of the absolute is *not repose, but activity*, — moreover, activity itself, which must therefore distinguish itself as acting subject and the passive object, — and, finally, *for itself*, which produces, evolves, but the intensity of its own inner nature. *Activity in and for itself is the absolute*. The unit discedes, enters into self-opposition, but for the purpose of self-recognition, — in order, then, to reëstablish its unity, not *after*, but *in*, the discession. If we reflect upon the expression, “a *living un-*

shall perhaps be less disposed to smile at the idea of a unity *in* the opposition, a unity that requires and *contains* the antithesis.

Nature is thus a product of thought, and in this all the objections of the philosophy of Kant are met at once. Hegel made it evident, that the difficulty in the results of the Kantian "Critique," the inevitable opposition between the objective reality and the subjective idea, depended upon a misconception rooting in the old philosophical dualism. The reality, the truth of things, is, in the admission of every one, that which bodies itself forth in the series of phenomenal variations ; and Hegel proved that this "constant" is the result of the dialectic process of thought. The uncertainty of our agnition of external objects obviously arose from the assumption, that those objects had a real existence independently of thought ; that they might *be* different from what they were *thought*. The proof, then, *that their being lay in thought*, which is given in the "Phenomenology of the Mind," bridged over the chasm.

I foresee that the stubborn rigor of the dialectical procedure, to which I must needs adhere in following Hegel through the series of his logical reductions and deductions, will weary my readers. We shall have to reason our way up, sometimes perhaps tediously, from the Individual to the General, in the retrogressive individualization of which we shall again experience (if we may be pardoned the expression) all the toil of creation. The philosophical poet enchants us by revealing the mysteries of existence in adducing a number of phenomenal analogies all pointing to the same centre ; he conjures up the spirit of nature from groups, where it would not be seen in individuals ; he converts things into images, and, in all cases, causes the idea to flash upon us, so as, for a moment, to illumine our inmost being, where we see that idea written in its

full identity, and thus gain an instinctive certainty of truth. Such comprehensive ideas, the offspring of genial perception, of which we at once behold the verification in and around ourselves, — which with a single breath infuse life into a thousand individual forms, and link the most distant phenomena and occurrences, — which at a word summon before us the past and conjure up the future, — are endowed with a charm which does not adorn the path of toilsome reasoning. It may be pardonable, on this account, to give a prospective glimpse of the goal, in advance of our serious investigation, which will bring us thither, — to state what are the leading ideas in the philosophy of Hegel, in contradistinction, 1st, to those views which pervade our ordinary reasonings, and, 2d, to the philosophical principles of some of his noted predecessors, with whom he has been often compared, and not unfrequently confounded.

FIRST, then, as to the peculiarities of Hegel's philosophy, such as they appear when contrasted with views prevalent in our days, it is shown by Hegel, that existing things are not quiescent, permanent in their existence, and cannot be anywise comprehended as such in their nature, but that they are essentially *living processes*. Very vaguely speaking, this might be thus expressed: things are not, even for an instant, *stationary*; they are *fluxional*, and subject to incessant change. Their apparent quietude is but the quietude of commotion.* This is

* How beautiful the words of Goethe in allusion to this! (Work Cotta's large octavo edition, I. 202.)

“ ‘Mich ängstigt das Verflängliche
Im widrigen Geschwätz,
Wo Nichts verharret, Alles flieht,
Wo schon verschwunden was man sieht;
Und mich umfängt das bängliche
Und graugestrickte Netz.’ ”

indeed, nothing new ; Heraclitus had already said : *Πάντα ῥεῖ*, and it seems a very trivial, "every-day" enunciation ; — we all know that finite things are coexisting with other finite things, subject, therefore, to their modifying influence, and, consequently, to change. But Hegel further shows, that this change is not merely an accident superinduced from without, but that it is prompted by the very nature, the "definition," of the thing within ; that finite things are, from an *inherent* necessity, not only co-existent with other things, but driven to *self-negation*. Why we do not use the word "*self-annihilation*" will hereafter appear.

Pursuing this idea farther, let us see to what it leads. Change is a transition from one thing to another ; for, when a thing has changed its state, it is really a different thing. The changing thing, inasmuch as the change is urged by its own nature, must, in consequence, at once *contain* and *exclude* the thing into which it changes ; it implies a contradiction, by reason of its indwelling activity. In general, all activity, all life, is the unity of a contradiction. Let the reader, who finds difficulty in "*realizing*" (to use an Americanism) this apparent paradox, reflect upon an *act*. *In* the act that which originates thereby (and something always originates in an act, or something is after the act, which was not before it) *is* and *is not*.

In the same manner, the Deity is not, as usually taken, absolute, eternal rest. Ordinarily, though life, thought,

Getrost ! Das Unvergängliche,
Es ist das ewige Gesetz,
Wonach die Ros' und Lilie blüht."

" ' I am terrified by the Insidious in the loathsome jargon, — where naught abides, every thing flies, — where that which you see has already disappeared ; and I am encompassed by the alarming, darkly-knit net.' Courage ! The Imperishable, it is the eternal law, in accordance with which the rose and lily bloom."

activity, &c., are predicated of the Deity ; they are appended thereto rather than deduced from it, which latter, even if attempted, would in fact prove impossible. "The eternal, infinite cause of all things is the Deity," is the general enunciation ; "all other things are but effects of this cause." A *formal* connection between cause and effect is thus, indeed, established ; but how the one necessarily belongs to the other remains incomprehensible. Hegel showed (or, if this be not granted, at least *endeavoured* to show) that the Absolute is to be conceived as distinguishing, "stating" (positing), itself as cause *and* effect, preserving, however, in this distinction its unity. The Absolute is, then, its own cause ; it distinguishes itself as effect, but in the latter sees only its own identity, is therefore reflected into itself, and the unity *resulting* from this self-reflection is the true unity of the Absolute, — not the mere *simple* unity without process and discession. Let the reader look at this under any aspect he chooses ; let him say, e. c., God thinks Himself, — God is essentially active, — God is a *spirit*, &c. ; the only thing indispensable here is, to conceive the idea of a *living unit*, — a unit indeed, since it is without any external relations, since it relates only to itself, — a living process of self-distinction. Here lies the *sense* of so many propositions of Hegel, which have been decried as blasphemous, or ridiculed as nonsensical ; as, for instance : The Absolute, the Deity, is a reconciled contradiction ; the Deity is to be apprehended not only as a rigid, inactive *substance*, but likewise as (an internally active, thinking, self-distinguishing) subject ; the Deity is self-origination, a circle, which *presupposes* the result as its own object and end, — proceeds from and returns to itself. Truth, it is said elsewhere by Hegel, is the *Whole*, — but the whole is only being which completes itself in its own development. The Absolute is essen-

tially a result; not till the end of its process it is *itself*; in its nature it is *subject*, — self-exterioration, self-evolution. The Deity is only through *mediation*, which mediation is the moving self-equality, self-reflection, or, taking it abstractly, simple origination, the abstract “*fieri*.” The pure self-agnition in its absolute exterioration, this ether as such, is the foundation of all science.

In the current philosophical systems, a quiescent substance, absolute quantity, is the material from which all qualitative differences are elaborated; in Hegel’s philosophy, absolute difference, absolute quality, forms the beginning, from which quantity proceeds. Hegel does not attempt to evolve concrete forms from an abstraction; his “Absolute” is essentially concrete. — The reason for so many anomalies (as they are termed) in the philosophy of Hegel will now be apparent. Since truth is apprehended, not as something reposing in the bosom of its own being, but as the “Whole in its development,” as the Absolute, not abstractly taken, but also in its phenomenal existence, in its individual exterioration, the system of metaphysics, which formerly consisted of nothing but formalities, must encroach upon the domain of all science. Instead of an establishment of certain forms, merely for construing the various material, form and material now stand in necessary relation; the material — nature, &c. — enter as essentially into metaphysical reasoning as the old formulas. It cannot, therefore, be startling, to see that the natural sciences, history, &c., are an integral part of metaphysics. “The true form in which truth exists,” says Hegel, “is its scientific system alone.” Formerly, all the realities of life were excluded from philosophical speculation; they were beneath the level of thought; in the Logic, &c., of Hegel, the idealities are exhibited as producing themselves in and through these realities.

It will be borne in mind, that, in the philosophy of Kant, an *original* duality of principles was presumed, — the principle of *mind*, of *intelligence*, on the one hand, and that of the *material*, on the other. The former only was hitherto (I speak, of course, of the systems whose influence is now felt, and which yet give to our text-books of logic, &c., their tone) the subject of logic and metaphysics; and we have seen how fatal this proved to philosophical certainty. With Hegel, on the contrary, the absolute intelligence or mind, the Absolute, is in itself both the *infinite substance* (material) of all natural and spiritual life, and the *infinite form*, the active exterioration of this substance. It is not a bare formality, which would fain subject matter, but, on account of its impotence, remains a mere Ideal; it is at once an unlimited form, a ceaseless activity, and the material upon which it operates.

This leads us, secondly, to the charge of Spinozism vulgarly preferred against Hegel. It has been imagined that the "Absolute" of Hegel is but a disguised reappearance of Spinoza's "substance," — that Hegel's "momenta," i. e. the successive stages in the self-evolution of the Absolute, are the "attributes" in Spinozism, — that, in general, the philosophy of Hegel is nothing else than Spinoza's system tricked out in the finery of German metaphysical jargon. Hegel himself has unwittingly contributed to the perpetuation of this charge, by certain formal assertions, which, at the first blush, would seem to bear it out, — in maintaining, e. g., that every true philosophy of the present day must have stood on the platform of Spinozism; by which, however, he meant by no means to identify himself with Spinoza. Presupposing a general acquaintance with the doctrines of the latter, I will endeavour to make it palpable that the philosophy of Hegel is liable neither to the absurdities of Spinozism, nor to its fatal consequences as to morality.

Spinoza defined *substance* (besides which there is nothing) to be that which is comprehended in and through itself ; and the *causa sui* he calls simply that whose nature or being includes existence, — that which cannot be conceived otherwise than existing. We see at once, that this *causa sui*, the Absolute, is conceived there as firm repose, the word "*causa*" being a mere dead letter, since there is no causation, no activity, in the question. The Absolute of Hegel is really a *causa sui* ; as we have pointed out above, it distinguishes itself as effect, recognizes itself therein as cause, as an identity, and is consequently a self-causing unit. The Absolute in the philosophy of Hegel is not the unity *before*, or rather, *without*, internal reflection ; nor the unity of cause and effect, as they are contrasted by the Understanding, *after* the reflection, which would be the mere external union of *two* substances ; but the unity *in* the reflection, *as a process*, to which, indeed, the two momenta (cause and effect) are necessary, but as evanescent, as vanishing into each other, so that they exist only with reference to the process. It is from not keeping this important distinction in view, that Hegel's philosophy has been confounded with Buddhism, on the one hand, and Spinozism, on the other. Many persons, entering upon the study of Hegel's Logic, or Encyclopædia, found there the unity of Being and Naught as the starting-point for the evolution of the Absolute. It was scarcely surprising, when they imagined they recognized in this the theory of the Buddhists, that all existences are no more than modifications of the absolute vacuum, or non-being ; or, as others will have it, of immaterial Being. — Those who understood Hegel to say, that the Absolute was but the *comprehensive* unity of the individual momenta, were not without a specious authorization in making him a pantheist. — It may here be the proper occasion to advert to the protest of Hegel against the applica-

tion of the categories of the understanding to the Absolute, so that, according to a captious remark, the Absolute is to be understood without understanding. The reason is, that the understanding compares only the finite phases, the momenta, of the Absolute, and not only contrasts them, but fixes them in that contrast as separate and independent, as *substantial existences* therefore, whereas they have value only as momenta of the process, — whereas their value lies in their negation. The understanding, on the highest stage of its action, sees that all things involve a contradiction ; but it is overcome by this contradiction, and perishes in it. Speculative, philosophical reason, on the contrary, masters it, and shows that the truth into which this contradiction resolves itself is absolute activity. Far from being led to a despair of its power of attaining to the Absolute, it comes to the triumphant result, that there is nothing which in its own nature does not reduce to self-opposition, to an active subjectivity, and its task is simply to maintain the unity in the opposition.

The Finite, in the definition of Spinoza, is that which is limited by another thing of the same nature. The limitation being thus external only, it will be apparent, upon a little reflection, that the concrete existence of finite things ought to be permanent. Hegel demonstrates, on the contrary, that finite things are limited both in time and space, from the nature of their existence ; that they are *inherently* and *essentially* limited. Consistently with the asserted unity of a self-existing substance, Spinoza must make the finite things *integrants* of the Infinite (though in some passages of his Ethics he seems to disavow this), to which circumstance all the imputed absurdities and immoralities refer. With Hegel, the evolution of the Absolute depends upon a *negation* of the Finite. It may be quoted against me, that Spinoza, too,

says : “ *Omnis determinatio est negatio*, — All determination [of the Finite] is a negation ” ; but in his Absolute, his “ substance,” the negation is simply *omitted*, whilst with Hegel the Absolute arises from a negation of the negation of the Finite, — from a negation of the Finite’s essential limits.

The “ attributes ” — *thought* and *extension* — of substance constitute, according to Spinoza, that which the understanding conceives as the essence of it. It remains quite incomprehensible there, how the substance converts itself into attributes for the understanding, and whence this understanding derives its origin and peculiarities. Equally mysterious are the “ modi ” of Spinoza, the “ affections of the substance,” of which there are two for each attribute : *rest* and *motion* for extension, *intellect* and *will* for thought. The genetic phenomenalization of the Absolute is traced in the philosophy of Hegel, and, instead of arbitrary Spinozan statements, we have rigorous deductions.

It has been attempted, in various quarters, to cast ridicule upon the system of Hegel with the *crambe recoccta* of Bayle and others, who jeered at Spinoza, saying, that, since, in his view, all individualities were but modifications of the Absolute, the Almighty was just then waging war against Himself in the guise of Turks and Austrians, or, more atrociously, — “ *Deum a seipso manducari, digeri, secerni*,” &c. Similarly, if Hegel’s system be true, — such has been the language held, — the Deity goes through the entire logical process of transforming itself into categories and syllogistic forms, and, generally, percurrs a series of embryotic or chrysalid metamorphoses ! — If Hegel begins with abstract Being, which in that abstraction is identical with Naught, and thence proceeds to exhibit the different “ momenta ” of the Absolute, this is not to be understood as if really the

Absolute unfolded itself *in time*, attaining to self-consciousness only at the end of the process. The Absolute is, as I have mentioned, essentially, and therefore "from all beginning," a unity distinguishing itself in itself, a subjective personality, whose self-distinction, or self-consciousness, alone is the key by means of which the origin of any thing can be comprehended. The human mind contemplates the phases in their succession and considers them diffractively, whilst in divine self-consciousness they live in concrete unity, from which the *beside* and *after* are excluded. Hegel never meant to enounce (which could be imputed, perhaps, to Schelling), that the Deity gradually emerged from the "Cimmerian darkness" of nature to the light of mental consciousness, — from the confusion of passion and instinct to the transparent order of intelligence. The charge, that Hegel's Absolute gives birth to beings more perfect than itself, that unconsciously the Absolute evolves conscious beings, thus likewise arises from the grossest misapprehension.

Hegel's philosophy is neither pantheism nor Spinozism, since the Absolute, far from being the comprehensive substance, or the quiet substratum, of nature's particular forms, is the spirit reflected from nature into itself as from its exterioration, — not merely Being, but self-conscious Being. — But, it is objected, if the immanence of the Deity in finite things, in the sense of Spinoza, be repudiated by Hegel, he asserts, at least, that the truth in the existence of things is their ideality, thought. Is not this the grossest materialism, under one point of view, and the most vaporous idealism, under the other? — Farther on the reader will perfectly understand me, if I remind him that thought is the unity of several momenta (items, as we may here call them, until we have developed the force of the term "momenta"), or a unity reflected into itself by a position and consequent ne-

gation of these momenta ; and that the material individualities of nature are these momenta exhibited in their isolation, with a necessary, inherent reference, however, to their higher unity, and therefore with an inherent tendency to self-destruction, with an inherent negation. This isolation of the momenta constitutes the resisting solidity of matter, the absence of the spiritual transparency of thought, as Hegel terms it. Matter essentially tends to its self-destruction, to its conversion into its original truth, into the Spiritual, thought, which alone does not gravitate to an ideal nothingness, — which is self-sustaining. If it be said, therefore, that the highest individuality of reason is the Deity, that all existing reality is reason, and all reason reality, we must never lose sight of the great apperception, that reason, thought, &c., are *processes*, that the Deity is a *living* spirit. The great stretch of abstraction in the philosophy of Hegel consists in mentally retaining the division in the unity and the unity in the division, which is, indeed, the same as retaining the extension of nature in the Absolute, and the intensity of the Absolute in nature. This is one of the difficulties which prove the *pontes asinorum* for the students of Hegel. That the truth of things lies in their mediation, that, e. g., finite things are not such as they appear at first sight to the senses, is certainly startling. — Things are to be *thought* by man, before their reality is attained ; we shall see this in Hegel's Phenomenology. — Another poser : The negation of finite things is immanent in them ; they *are* by self-negation. No affirmation without negation. To conceive this immanence of negation is of the utmost importance ; it is the motive agent in Hegel's dialectic process ; I hope to succeed in bringing it before the "inner eye" of the reader hereafter. This principle of contradiction had already haunted Kant in his Antinomies ; it had been foreshadowed by Schelling

and his disciples, when they remarked, that all things are at the same time solicited by two tendencies, the one bearing towards individual existence, the other towards generalization, hence towards the destruction of that existence, life being nothing but the incorporated warfare between the two ; but as the moving principle of life, as the main vital pulsation of all development, it has unquestionably been put forth for the first time by Hegel. In a great measure, both the unbounded horror and the insurmountable disrelish of Hegel's philosophy are imputable to this. There is the anguish of the struggle against death, against annihilation, in toiling up to a positive result, to a fixed point of rest, from which one hopes to contemplate the discrepancies just left behind with the joy of conciliation, when suddenly again the foundation totters, and the complacent gazer upon the longed-for calm of thought is once more whirled around in the eddy of dialectic contradiction.

But, unawares, I am presuming upon the acquaintance of my reader with the system, instead of giving him, according to promise, a general initiation. Let us see if a few touches will define themselves into a distant perspective.

THE elements, in which we think to grasp truth immediately, upon which our consciousness is based, are the data of the senses. Now it is not enough for the philosopher to say that these pretended realities are no realities ; they must show themselves to be unreal. Hegel, therefore, in his " Phenomenology of the Mind," follows up empiric consciousness in its phases, and becomes, as it were, the historian of its involuntary experience. The first result is, that the imagined primitive reality of the senses *changes*, and with it, of course, also

consciousness. The *immediate* object is hereby annulled, but only because a *new* object presents itself as its higher truth. This, then, is taken "at its word"; being consistently carried out, however, it likewise proves defective, a nullity, and turns over into another apparent truth. What is taken for truth proves but a phenomenon the next moment, and thus a series of phenomenalities is percurrent, which finally brings us to the perfect identity of the mind with the "real nature" of the object. The inherent contradiction, by which the object on any particular stage propels itself to a higher stage, is called its *dialectic process*. I cannot exhibit this fragmentarily, and the reader is referred to my subsequent reproduction of it; the main thing concerning us here is the admission, that, in order to attain to the reality of an object, it is necessary to abstract every thing *immediately given*. This leaves us abstract *existence* and abstract *thought*,—or, abstracting, finally, the determinations of subject and object, which are likewise still immediate, pure *being* and pure *naught*. In this abstraction they coincide; and the only foundation upon which science can be reconstructed is the identity of being and naught. They are identical, since *no determination of any kind is interposed between the one and the other*; and yet they are different and opposed;—how is this to be reconciled? *They are identical, as being the integrants of pure origination, of the absolute "feri,"* without reference to which they exist not; conversely, as existing, they are necessarily opposed, *because, taking away the one* (in its abstraction, with a view to retaining the other), *the other disappears also*. They are *momenta* of origination. *Momentum*, in the philosophy of Hegel, is that whose *only* existence and value lies in relation. To use a familiar instance: in a mathematical ratio, as $\frac{5}{9}$, the two quantities 5 and 9 have no absolute value; we may indifferently

substitute 10 and 18, 15 and 27, &c., or even quantities infinitely reduced ; their value lies only in their relation to each other, and this relation expressed in the quotient is their truth, their significance. Nothing is more important than to bear this in mind ; Hegel's expression, "momentum," is retained, in spite of the altogether different sense which it holds in mechanics, for a twofold reason. First, all other English expressions which might be chosen instead, such as "factor," "integrant," "term," &c., would bring about confusion, on account of the very approximation of their import to that of momentum above given ; for, after all, the approximation is but one of analogy, and the qualitative difference between analoga is ordinarily forgotten, whilst philosophically it is the most essential. Secondly and especially, the reader will thus be prepared for a successful study of Hegel's original works, to which, I hope, many will hereafter resort.

Being and *naught*, then, exist only in virtue of their opposition and of their identity, — in virtue of their contradiction. The *two* are to be put as *one*, in origination ; but in this unity they are to be retained as distinct. They are both necessarily existences, therefore ; *being* is an existence, a *reality*, but not an existence in itself, insularly, as it were, but in its existence it is its own negation. *Naught* is an existence, but only as the naught of reality, as a *negation*, in which reality is not only *presupposed*, but *expressed*. The truth of being and naught is their transition or evanescence into each other, in *origination* ; and, conversely, the reality of origination is the opposition of being and naught. The latter two are consequently postulated, not merely as vanishing into each other, but also as maintaining themselves in their distinctness against each other (without which we should have absolute evanescence of all being), — as maintaining themselves in

existence. They must be being and naught as *immediately there*, or, as Hegel terms it, in position (*gesetzt*). The first triplicity, *Being, Naught, Origination*, thence becomes now *Reality, Negation, Existence*, of which the first two are every time momenta of the third. Being, Naught, and Origination can maintain themselves *only by their transition into the next sphere*, that of Existence, and so every inferior order of momenta unavoidably advances to a superior one in *struggling to sustain itself*. — Further : reality, we have seen, is in and by means of its negation ; but negation is equally in and by means of its reality, — through its own negation ; hence this reality exists as *something* only as the negation of negation. It would be the same thing to say, that it depends upon mediation. No matter how we conceive and express this ; it results from it inevitably, that the position of an existing thing is at the same time the position of its counterpart, or, in the words of Hegel, of its “*alterum*,” — that every existing thing is therefore finite, both in the *beside* and the *after*, in space and in time. Moreover, it relates to the without, and thus it is a *multiple* ; the without relates to it, or rather, the existing thing relates to itself *from and through* the without, — it is reflected into itself from the latter, — thus it is a unit. In this last capacity it is *being pro se*, which completes the cyclus of *quality*. Quality is not a determination *added* to an existence previously given ; the existence is *nothing but* quality. The unity of being and naught in general is called determination, — or, popularly, determination is *contrast* ; this determination taken as isolated is *quality*.

In being *pro se*, the multiplicity of external relations, of *properties*, as we designate them, has been reconcentrated in unity which appears in the form of the Immediate. In this form it excludes, denies, all other existences ; it exists only for itself, for the unit, — it is the “*I*.” Never-

theless, it at the same time depends upon them ; it is therefore a contradiction in itself, which resolves itself only in the simultaneous existence of other units, each of which states itself as a unital being *pro se*, and, by the same contradiction, conjures up another being *pro se*, — and so on, *ad infinitum*. The act of self-concentration with the unit is therefore equally an act of self-repulsion, the position of *many units*. Not as if one unit *divided* itself into the many ; *the one cannot be without the many* ; the latter are at once stated with the definition of the unit. This repulsion, or self-extension, of the unit into multiplicity is the effort of self-position of the unit, which through its dialectic contradiction thus becomes the position of several units. All these efforts, by dint of which the many units attain to position, have but one tendency, — that of unity ; the repulsion, therefore, is with equal necessity attraction. All the units state themselves as *individuals*, — they *repel* ; but they cannot repel, without referring to, without *attracting*, each other. Repulsion and attraction, then, presuppose each other ; they are momenta, and the unity resulting therefrom is *quantity*. Qualitative existence depends upon *difference*, upon negation ; every quality presupposes its counterpart. Quantity is the *indifference* of repulsion and attraction ; quantitative existence does not, therefore, depend upon negation ; it repels, denies itself, on the one hand, and attracts, asserts itself, on the other, in its *alterum*, in its without. In the new triplicity, *Attraction, Repulsion, Quantity*, the former two have again but momental significance. Their distinctness, however, is to be preserved ; thus we have quantity under the aspect of attraction only, *unital, continuous* quantity, and quantity as the aggregate of repulsive individual units, *discrete* quantity. — Quantity, when in actual position, becomes quantity with a limit, *quantum* ; *extensive quantum*, when the momentum of discre-

tion is taken as extension, — *intensive quantum*, when the momentum of discretion is taken again *unitally* (popularly, as *degree*).

Quantity in itself is indifferent to quality, and in this indifference consists its very definition. Yet if we take this as absolute, we are forced to admit the contrary. In taking a shrub, for instance, at first sight, the size appears to be a matter of indifference ; whether the shrub measure one or three feet in height, it still remains a shrub. But following this up, — continuing to add to the length, we finally come to a point where the shrub has become — a tree. The mere change of *quantity* here has affected the *quality*, — or quantity has become identical with quality ; and this identity is *measure*.

But this brings us silently to another result. We learn that the immediate being of a thing may be changed, the inner nature remaining constant nevertheless. This nature is *not*, then, immediate being, or, in other words, arises from the negation of that being ; still, were the latter to vanish altogether, there would be no question any more of the inner nature. This negation of the whole sphere of being, — of quantity, quality, and measure, — which nevertheless presupposes it, is *essence*. Essence is, as it were, the immediate background of being. By and in itself it is nothing ; it therefore *demand*s immediate being, from whose negation it nevertheless proceeds, as its *phenomenality*, or *appearance*. The *immediate* unity of the two, then, will be *actuality*, in which essence and phenomenon are preserved momentarily, which gives rise to the relations of cause and effect, of substance and form, of action and reaction. But the last brings us to the real and active identity between essence and phenomenon, so that the essence contains, evolves, and resumes its phenomenality in and from itself, — the *idea*. This is first *subjective*, and comprises, 1st,

the *idea* as such, which, 2d, enters into the process of its diremption in *judgment*, and, 3d, resumes itself to its unity in the *sylogistic conclusion*. Secondly, the *idea* is the *object*, with the momenta of *mechanism*, *chemism*, and *teleology*. Finally, the identity of subject and object, — the *identical idea*, which is again, 1st, *life*, 2d, *cognition*, and, 3d, the *absolute idea*, — the pure form of the *idea*, which looks upon itself.

Now of this system of logic, nature, according to Hegel, is the material representative. The three general categories of *being*, *essence*, and *idea* are exhibited in *mechanics*, *physics*, and *organics*. In *mechanics*, material things are considered as simply *being*, as qualitatively indifferent to each other ; in *physics*, their *essential* relation appears ; and in *organics*, again, the processual identity of essence and being. Mechanics comprise *mathematical* mechanics, with *time*, *space*, and their identity, — *place* and *motion* ; *finite* mechanics, with the forms of gravity, — *inertia*, *impact*, and *fall* ; and *absolute* (astronomical) mechanics.

In *physics* the first existences are the *free physical* bodies : the celestial bodies. Hegel contends, that every momentum of the *idea* has a *free* and *separate* existence in nature ; thus, the momentum of universality is incorporated in the *sun*. As to particularity, there are two phases : that of *abstract existence for others*, without internal hold, — the *cometary bodies* ; and that of abstract existence *pro se*, without external reference, — *lunar bodies*. The momentum of individuality, which combines both phases, is the *planet*. Now these existences begin to *state* themselves on the planet, and to develop themselves in it, — to become *elements*. The solar element is *air* ; the lunar and cometary elements are *fire* and *water* ; the planetary element, of course, the solid *earth*. The process of generation, in which these are produced, is termed the *meteoro-*

logical process. Then comes the department of particular individuality, with *specific gravity, cohesion, sound, and heat.* In the *physics of total individuality*, the sphere of formalization, we have again the momenta of the idea. First, the idea as *form abstractly existing*, — *magnetism*; then the particular qualities, and the *form* as really, antithetically existing, — *electricity*; and finally, again, the resumption of this, — the *chemical process.* In the sphere of *organics*, once more, the first momentum is universal-ity, — the *geological* organism; then particularity, in the *vegetable* organism; and lastly, individuality, — the *animal* organism. The acme in the philosophy of nature, then, is the birth of *mind* in man. — This rapid view will suffice to show the reader what he is to expect and for what he is to “look out”; for the rest, I must trust to the subjoined delineations.

HEGEL'S PHENOMENOLOGY OF THE MIND.

CONSCIOUSNESS.

I. THE CERTAINTY OF THE SENSES.

IN the “Phenomenology,” Hegel begins by showing, that truth does not lie in the immediate data furnished by perception, but that universally the truth of any object involves mediation. — An object is before me, and for the certainty of this I have the vouching of the senses. Now this immediate certainty arises not from the circumstance, that my consciousness has unfolded itself in the perception, and that my thoughts have been set into flow, — nor from the multiplicity of relations in the object itself, and of the object to other objects; I simply pos-

ness the assurance : the object *is*. I, *this* particular consciousness, become sensible of *this* individual object.

This perception, then, presents the difference between the conscious "I" and the present object. Neither of them is absolutely immediate ; I have the certainty of myself in and through the object, and the object is certain for and through the "I." Yet the truth seems to rest with the object ; as to its existence, it appears to be a matter of indifference whether or not it be known by the "I." It remains therefore to be seen whether the "being" of that object is really such as the perception of sense exhibits it. What is the "this" before me ? It is the "now" and the "here" ; upon these two data my certainty of it depends.* Is this "now" any thing directly given ? The "now" is night, for instance ; but the truth of this vanishes ; — if I write it down, it no longer holds good, as every truth should, for truth is permanent. I find, in looking at it again, that the "now" is morning. Nevertheless it is still "now" ; it is neither night nor morning, and still it is nothing without them ; it is therefore at once night, morning, &c. It is the particular "this" of perception, and likewise not "this." The truth arising from this negation of the Particular, which Particular is, in spite of its necessary negation, indispensable for its existence, is the universal "now." — Similarly, the "here" of the senses is, e. c., a tree. I simply turn around, and the "here" is now, according to the same senses, a house. The simple "here," which remains, is evidently the result of mediation. Mere abstract, general *being*, but being depending upon negation and mediation, therefore remains as the foundation for the certainty of the senses ; and the truth beyond this gener-

* There is question here merely of a certainty of the object *as being*, which is, in fact, all the senses pretend to furnish ; not of the certainty respecting the qualitative *nature* of the object.

ality of being attaches itself only to *my* opinion, to *my* knowing of the object. The relation between the object and my knowledge of it has now been inverted. The object, which was originally asserted to be the only thing essential to the certainty, has at present resolved itself into a bare generality ; its truth as *this* object now lies in my knowing of it. I behold, hear, &c., this object ; the "now" is day, because I see it ; the "here" is a tree for the same reason. "I, this particular 'I,' assert the tree to be the 'here' ; another 'I,' however, sees the house, and asserts *that* to be the 'here.' Both are attested by the same immediateness of sight, and yet the one vanishes in the other." * The only thing which does not vanish is the generality of the "I," whose seeing is neither a sight of the house, nor of the tree, but simply seeing, which, notwithstanding all this, again depends upon the mediating negation of *this* house, &c., — in short, of the Particular. The seeing "I" is therefore as general as the "now," "here," or "this," and it is as impossible to say what is meant by the "I" as what is understood by "here" and "this." We are thus forced to place the nature of the certainty of the senses neither in the object nor in the "I," but in the totality of the two, such as it is immediately given. It is to be seen, then, what is immediately given.

The "now" is pointed out ; this "now." In being pointed out it has already ceased to be ; the actual "now" is no longer that pointed out, — it *has been*. Its truth therefore is, that it *has been* ; but what *has been*, is *not*. The immediate presentation of an object is essentially a *movement*. First the "now" is pointed out and asserted as the truth ; but next it is pointed out only as *having been*, — the first truth, its *being*, is revoked ; thirdly, what *has been*, is *not*, — the revocation is revoked,

* Compare the "Phänomenologie des Geistes," pp. 75, 76.

the negation denied, and I return to the original truth as general : the "now" is. This movement exhibits the truth of the "now," namely, a "now" reflected into itself, a *general* "now," a multiplicity of "nows" comprised in a unity.

In an analogous manner the "here" pointed out is first an "above"; but next it is not an "above," but a "below," and so on. The one "here" vanishes in the other; what remains is nothing more than a negative "here," a simple complex of many "heres."

The dialectics of the certainty of sense thus consist simply in the history of its own movement, in its own experience, and are nothing forcibly superadded; nay, the certainty of the senses is nothing but this movement.

II. OBSERVATION.

THERE is consequently no truth in the so-called individualities of sense; the truth is the Universal, which is not *perceived* (by the senses), but *observed* (*wahrgenommen*). Universality (generality) is the principle of observation; its immediate constituents, the "I" and the object, are both general. Simultaneously with the principle of generality these constituents have originated; the subjective observation is simply the movement in which the object is exhibited, and the object the same movement as a *unity*. The object is essentially the same as the subjective movement; the latter the development and separation of the items, the former their unital comprehension. For us, then, *generality as a principle* is the essence of observation; the subject observing and the object observed are not essential. But each of these separately is a generality; since they are opposed to each other, we are forced again to inquire to which of the two

the essentiality belongs. Now the subjective movement of observation, being inconstant, is unessential, and the essence must lie in the comprehensive unity, in the object. The principle of this object, generality, is a *mediated*, not an *immediate* unity ; it is simple only from the comprehensiveness of the movement of which it is the result. This, then, must appear as a feature in its nature ; the object is one of many qualities. But quality is determination ; determination depends upon negation ; the "this" is consequently stated at the same time as "*not-this*."


The different qualities are independent of each other, and only meet, interpenetrate without interference, in the simple generality of the object, in the "here" and "now,"—the abstract medium of the many qualities. But these qualities themselves are simple generalities ; this salt, for example, is a simple "here," but it is at the same time white, *and* acrid, *and* cubical, *and* of definite specific gravity, &c. These different qualities interpenetrate in the simple "here" without affecting each other. They are, however, *definite* qualities ; they refer, therefore, not to themselves alone, but also to other qualities opposed to them. This negation of the opposite qualities does not take place in the simple medium, in the mere "*and*" ; this medium is, consequently, likewise exclusive in its nature ; it is a *unit*.

The object as the truth of observation, when complete, is therefore (a.) indifferent, passive generality, the "*and*" of the many qualities, or rather, materials ; (b.) the simple negation, the exclusion of other qualities ; and (c.) the many qualities themselves, and the two preceding momenta referred to each other : the negation relating to the indifferent medium. In so far as the differences belong to the indifferent medium, they are general, relate to themselves alone, and do not affect each

other ; but in so far as they belong to the negative unit, they are exclusive. The generality of observation becomes a *quality* only by developing out of itself, distinguishing and uniting, *exclusive unity* and *pure generality*.

By this object, then, as it now stands, consciousness is determined as an observing subject. It is sensible of the possibility of an illusion : for, though it immediately faces the "without," this is annulled as immediate, since generality has become the principle. The criterion for the truth of the object, then, is self-equality. We are therefore to inquire what is the experience of consciousness in its observation.

The observed object presents itself as absolutely *one*, *individual* ; but it is observed also as a *quality*, which is general, and thus goes beyond individuality. My first observation, in which I took the object as individual, was therefore incorrect ; the generality of the quality forces me to take the object likewise as a generality. Again : the quality is *definite*, — opposed to another quality and excluding it. I am consequently again compelled to abandon the generality, and to state the object as an *exclusive one*. There being, however, many qualities in the exclusive unity which do not mutually affect each other, the object is to be apprehended as a general medium, in which different qualities separately exist as generalities of sense, and yet as exclusive, since they are definite. The simple object is therefore observed as an individual quality, which again is *not* a quality, since it does not belong to an individual unity, nor definite, since it does not refer to other qualities. It is therefore the mere *being of sense*, and we have thus returned to the point whence we started. Consciousness in its observation of truth is reflected into itself, just as before in the certainty of sense ; with this difference, however, that in the latter instance it appeared to contain the truth of the



object, whereas now it contains the untruth. Of this, however, it is aware, and in this manner the object is maintained in its purity. — The object is first observed as a unit ; then it ceases to be such, and presents the difference of qualities only to *my consciousness*. “ This object is indeed white to *my eye*, acid to *my tongue*, cubic to *my touch* ; I am therefore the general medium in which this separation of qualities takes place.”

But the object, though a unit, is a determinate one, and determination depends upon contrast, upon exclusion. Thereby the qualities *as different* again become attributes of the object ; the object is white, *and* acid, *and* cubical, &c., — the simultaneous and independent existence of the different qualities. Their compenetration occurs in my consciousness. This gives me again a reversal of the relation ; formerly consciousness attributed to itself the *multiplicity* of qualities in the object ; now it makes itself responsible for their *unity*. The result of its experience, then, is, that the duplicity is inherent in the object. The object by itself is a unity, equal to itself ; but it is likewise for others, depending upon a difference from them. *Immediately* the objects do not differ from themselves, but simply from each other ; this relation, however, is mutual, and each object is necessarily affected with the difference. Properly, then, it contains a twofold difference : first, the difference of its various qualities (the salt, e. c., being white inasmuch as it is not cubical, and *vice versâ*, &c.), and, secondly, the difference from its counter object. Nevertheless, the latter only of these differences is essential to the object, conferring upon it a distinct individuality. But this latter difference is a relation to other objects ; in virtue of this, the independent existence of the object is annulled ; *as determined*, the individual object is nothing more than the relation to other objects. The very relation, then, which was said to be

essential to the existence of the object, proves to be *the negation* of its self-existence ; the object perishes through its essential quality.

III. FORCE AND UNDERSTANDING. — PHENOMENAL AND SUPERSENSUAL WORLD.

WE thus become the sport of a series of contradictions : of an individuality, which is at the same time a generality, — of an essence, which is unessential, — of an unessentiality, which is yet necessary ; and we see that these contradictions are incident to the object. Our consciousness is in this manner forced to abandon its particular ideas, and to take the object as the unconditionally General, since that alone is lasting, invariable ; having been informed, moreover, that *being for itself* and *being for other objects* are identical. — This absolute generality, moreover, precludes the difference between form and substance ; for, were the substance something distinct from the form, it must be a *particular mode* of being for itself and being for other objects ; but being for itself and being for other objects *abstractly* constitute the true nature of the object, the unconditionally General. Yet, in considering the object as one of our consciousness, or in its existence independent of our consciousness, we distinguish between form and substance. In the latter view we behold the object, first, as the general medium of several independent qualities, and again, as a unit reflected into itself, in which that independence is annihilated. In the one case, the object is taken in its being for other objects, in its passivity, where self-existence is destroyed ; in the other case, it is assumed in its being for itself. As to the former, each of the independent qualities is a medium ; the generality of the object is essentially a multiplicity of generalities. These generalities, however, com-

penetrate, and thereby again annul their separation, thus returning to the unital medium. This movement, by which the unity effuses itself into multiplicity, and the multiplicity resumes itself in unity, is called *force*, which appears as twofold : first in its exterioration, as the independent qualities in their being, and again as reintroversion, or as *force* properly so termed.

Some readers will find this transition to force odd and perchance unintelligible. Hegel has shown that the intimate nature of the object is unity and multiplicity. If I take the object as one, this very unity *forces* itself into multiplicity, and conversely.

The understanding only makes this distinction and induces the duplicity, which does not subsist in the absolute being ; exterioration and self-introversion are utterly inseparable. For the understanding, this duality of the force is not only necessary, but even substantial ; it is, on the one hand, the mere introverted unital intensity, *being for itself*, and, on the other, the unfolded multiplicity of the different qualities ; both of them, however, in necessary mutual transition. The unity of the force excludes the existence of the multiple qualities ; yet it is the nature of that unity to be these qualities ; it therefore unfolds itself into them, gives itself form. It seems, then, as if the form had been solicited from without ; but this "without" is the object's own exterioration, the form itself, and the object now exists as the medium of the unfolded qualities. Still its nature is equally unital, and therefore the non-existence of the different qualities ; this unity in its turn becomes the "without" of its present existence, soliciting it to self-introversion.

We have now an insight into this virtual duplication of the force ; we have two forces, whose existence, however, is such a movement, that the being of each is a mere statement, a mere position in and by means of its coun-

terpart. The one exists only by dint of its transition into the other ; the two are not independent extremes connected by an intervening medium, but they exist solely in and through this medium.

“Through the medium of this play of the forces, then, we look into the background of things.”* This medium, the being and simultaneous evanescence of the force, which co-includes the two extremes of its inner unity, and the outer multiplicity of the understanding, is the *phenomenon*. Our object has thus become a syllogistic trinity, whose extremes, the inner unital nature of things, on the one hand, and the multiplicity of the understanding, on the other, coalesce in their phenomenal medium. We look into the interior of things only through the phenomenon ; the interior itself is transcendental, a “beyond,” for our consciousness. This transcendental interior, however, reveals nothing whatever to consciousness ; no more, to use Hegel’s own simile, than *pure* darkness or *pure* light reveals any thing to the gaze. But the supersensual “beyond” results from mediation ; it proceeds from the phenomenon, and the phenomenon is its reality. The Supersensual is but the Sensual† taken in its truth, taken as a phenomenon, and not as a permanent reality, which it has amply proved itself not to be. We behold the play of the forces, a continual shifting of determinate appearances, whose truth consists merely in the *law* which manifests itself there. The law is the permanent image of the fleeting phenomenon. The supersensual world is a quiet realm of laws, indeed beyond the world of observation, since this exhibits the law only in con-

* *Phänomenologie des Geistes*, p. 105.

† I use the word “Sensual” in preference to the word “Sensuous” introduced by Coleridge and others, because the former is more idiomatic, and not here liable to become ambiguous.

tinuous change ; but it is nevertheless *present* in the world of observation, and its immediate type.

Yet the law thus present in the phenomenon realizes itself differently under different circumstances ; it is a *determinate* law. This leads at once again to a multiplicity of laws, which multiplicity in turn contradicts our consciousness of a unital interior. The various laws must consequently reduce to *one* law, in which the determination is simply omitted, without an actual identification of the individual, determinate laws. These in their determination are then phenomenal, and the determination disappears in the reduction. But even in this general law we meet with a duplicity, since in it the internal difference (between its intense, introverted unity, and the exterior, unfolded multiplicity) is immediately apprehended, whereby the two momenta are at once stated as absolutely subsisting. Now, according to the above, these differences must return into the simple unity of the interior ; and thus we have the law, first, as the expression of the subsisting integrants or momenta, and, next, as their return into unity, which may again be termed *force*. To use the instance adduced by Hegel : electricity as simple is force ; as dually existing, as positive and negative, it is law. In the capacity of a simple principle, electricity is indifferent as to its duality ; yet when it exteriorates, manifests itself, it is necessarily as positive and negative. — The force, as such, then, is indifferent to its dissection in the law, in its exterioration. Moreover, the integrants in that exterioration are indifferent with respect to each other. E. g., motion, as a law, divides itself into time and space, — into distance and velocity. But time and space, distance and velocity, in themselves, do not express their origin in this motion ; they are conceived without it and without each other. Now the definition of motion cannot be that of a simple principle of simple

being ; division, duality, is necessary to it, and yet there is no necessity of the resultant parts (time and space) for each other. The necessity is, then, simply an illusory one, belonging to the understanding only. The understanding, therefore, is drawn into the same movement as that exhibited in the play of forces ; a difference is stated, which is at the same time no difference, and hence revoked. It thus experiences, that this absolute movement is the law of the interior ; that the force decomposes itself into two factors, and again, that these factors recompose themselves into a unity ; in other words, that, in the nature of objects, "there is necessary self-repulsion of the Homonymous, and necessary attraction of the Heteronymous. The force, the Homonymous, places itself in a self-opposition, which appears as an absolute difference ; but this difference is really none, since the Homonymous repels *itself*, and, being identical with itself, necessarily re-attracts itself." *

By this principle the quiet domain of the laws, the immediate image of the observed world, becomes its own counterpart. We have therein a second supersensual world, "an inverted world," in the words of Hegel, in which the difference or internal discession of the interior becomes an immanent one. This supersensual world is an absolute self-antithesis, pure contradiction. As Hegel himself expresses it, — "This internal difference is to be apprehended as the self-repulsion of the Homonymous, and its reversal, the equality of the Unequal *as* the Unequal, — re-attraction of the Heteronymous. In aspiring to the truth of objects, we must apprehend *abstract change*, pure contradiction. The contradictory is not one of two, — for then it would be independent being, — but the contradictory of a contradictory. Though I place the

* *Phänomenologie des Geistes*, p. 107.

one contradictory (one term) here and the other there, still, as I have the contradictory *as such*, each is its own antithesis, the '*alterum*' of itself." *

In short, we are inevitably driven to a unity *in* the opposition, to an identity *in* the difference, — in other words, to an infinitude *in* the Finite. Through this infinitude we see the law completed to a necessity in itself, i. e. we understand the transition of its unity into external variety, and conversely; and all the momenta, the phases of the phenomenon, are received in, reconciled with, the unity of the Interior. The simple unity of the law is infinitude, i. e., according to what has been said, 1st, it is self-equality, and nevertheless absolute internal difference, — the Homogeneous repelling itself, the simple force becoming a duality; 2d, the factors of this duality appear as self-existing, independent, truly different; 3d, since they exist only as essentially different, as the contradictory of a contradictory, vitalized mutually as + and —, their nature is again unity and their duality annuls itself.

"This simple infinitude is the simple being of life, the soul of the world, the universal blood, which in its omnipresence is not disturbed by any contradiction, which comprises in its being all contradictions and their solution, which pulsates in itself without movement, and vibrates without disturbance."

We have now arrived at the point where the *system* of Hegel takes its root, — at this simple being, which is internally differential. The reader has a sufficient idea of Hegel's objective dialectics, which force every phase, meeting us at the first blush as permanent, into its very reverse, a palpable verification that it is *but* a phase, and affected with its own negation, with its counterpart. In the ensuing portions of the Phenomenology, Hegel, with

* *Phänomenologie des Geistes*, p. 121.

the most trenchant acumen, dissolves the whole sphere of objectivity in this manner, so that the Phenomenology is, as it were, his Philosophy inverted. These investigations are of no immediate interest to us, because the same categories emerge in the body of the system itself.

HEGEL'S LOGIC.

A. — QUALITY.

I. BEING, NAUGHT, AND ORIGATION.

THE system of all science must germinate in the absolutely Immediate, upon which all thought and existence are ultimately based. This first principle, the utterly Indeterminate, from which all determinations proceed, is *pure being*. But pure, abstract, indeterminate being is identical with pure *naught*. Let those who demur at this endeavour to say in what the difference between pure being and pure naught consists. If there be difference, there is peculiarity, determination ; and both are devoid of determination.

Being and naught are identical ; nevertheless, in order to think them, we must keep them separate. We have here the first instance already of the identity supposing the difference, which appeared as the result of the Phenomenology. The identity of being and naught consists in their absolute transition into, their necessary evanescence in, each other ; and this transition, their higher unity, is their truth.

Being and naught in mutual transition — *origination* and *evanescence* — form *existence*. Existence contains both (being and naught) ; it is *being with a determination*,

quality. — Origination is the unity of being and naught ; but not a unity which *abstracts from*, but which *comprises* them both. Inasmuch, however, as being and naught are in the embrace of each other, neither of them *is as such* ; i. e. being is not as being, and naught is not as naught. Selecting a familiar instance to illustrate this : a salt consists of an acid and a base ; but in the salt the acid exists not as acid, nor the base as basic. They *are* in this unity, but as *annulled*, as *momenta*. From their conceived independence they degenerate, as it were, into mutual complements.

II. EXISTENCE.

TAKING being and naught according to their difference, each exists as a unity with the other. Origination contains them as two such unities, — the one as immediate *being referred to naught*, the other as *naught referred to being*.

Naught received into being, so that the concrete whole is formally immediate, constitutes pure *determination*. This determination thus isolated is *quality* ; and it is obviously twofold, — determination in *the form of being*, *reality*, and determination in *the form of naught*, *negation*, which latter further determines itself as *limit*.

Existence, therefore, presents the twofold aspect of *reality* and *negation*. These are different from each other, and yet they are in identical unity ; existence as such a unit constitutes *the existing thing*. In the existing thing the simple self-relation is restored ; it is a *negation of the negation*, a mediation with itself. The reality of existence identified itself with negation, hence *became* negation ; but this negation is nothing without its reference to the reality, without its *re-annulment*, without a

second negation ; and the unity in this process is the existing thing.

Something *is* ; it, moreover, *exists* and includes the process of origination. It is a transition, whose stages themselves exist ; hence it *alters*. Maintaining itself, on the one hand, in its simple relation to itself, it is an existing thing as such ; its negation likewise sustaining itself, on the other, it is its counterpart, its "*alterum*." Every existing thing is consequently affected with this inherent antithesis : *being in itself* (*per se*, — *an sich*), and *being for others*, for the "without." It *is*, and is *determinate*.

Viewing this relation more closely, we find the thing and its counterpart, its "*alterum*," coexisting ; each acts as the negation of the other. Being for others is the negation of being in itself ; but this negation of the latter is possible only if it be immanent therein ;* the determination therefore also pertains to being in itself, constituting its peculiar quality, its *limit*.

Pure being, the pure relation to itself, then, forms the being *per se* in the existing thing ; but not as an immediate self-equality, such as we conceive pure being, but as the not-being of its *alterum*, as existence reflected into itself. It is therefore, first, negative relation to its *alterum* ; but, secondly, it is affected by this *alterum*, — the not-being of the same. In like manner, the *alterum* is first the negation of simple, self-related being ; but it is not this negation as pure naught, but a negation *necessarily referring to* being in itself, as its own being reflected into itself.

Every existing thing necessarily refers to an *alterum*, to a counter-existing thing, as to its negation ; but this

* This relation must be clearly seen. One thing limits another, not merely in virtue of its extraneous coexistence with it, but because it was already in the nature of the other thing *to be limited*. The *craving* for the limiting thing was inherent in the limited one.

negation is not an absolute one, but a negation of *something* ; the negation *asserts* the something, therefore, in denying it. — Being in itself, therefore, depends for its whole existence upon its being for others, the existing thing upon its alterum ; and, conversely, the alterum owes its whole existence to its primary counterpart. *The existing thing and its alterum are consequently identical.* Each is thoroughly and essentially affected and determined by the other. Being in itself is inherently affected with its alterum, and herein lies its *definition*, which is distinct from its determination. In the words of Hegel, — “ Definition is the affirmative determination as being in itself, to which a thing remains adequate in its existence in opposition to its complication with other things determining it, — in virtue of which it maintains itself in its self-equality, even in its being for others.”

In the sphere of the Qualitative, the differences maintain themselves even in their annulment ; hence the repletion of the existing thing with determination is distinct from that determination itself, which appears only as being for others, and exhibits itself as *property*. The properties of a thing depend upon its implication with other things. This implication, which at first sight seems accidental, is the necessary attribute of all finitudes.

The existing thing is the limit of the alterum, its negation, and thereby its own affirmation. This negation of the first negation is the being per se of the existing thing. The existing thing is the “ cessation of the alterum in it” ; in other words, it is the limit to every thing without. It *is*, then, in its limit ; at the same time, however, the limit is that where and what the thing *is not*. The limit, therefore, is the mediation through which a thing *is* and *is not*. Something *is* in its limit : it is the cessation of

the alterum in it ; it is *not* in the limit : it *ceases itself* in the alterum.

The quality of every existing thing which constitutes its limit determines the thing and makes it finite. Finite things exist only in virtue of their *negative* relation to themselves ; “ they are, but the truth of this being is their end.” They pass away, not from any adventitious, external necessity, but from the laws of their own being. The nature of finite things is, to contain the germ of destruction as their inmost being ; “ the hour of their birth is the hour of their death.” Yet this evanescence is not absolute ; their negation is a relative one ; they vanish into a higher reality.

It has been said above, that existing things, simply because their existence implies a negation, are finite in a twofold sense : they are *limited*, and subject to *alteration*. An acid, for instance, exists as an acid only by the negation of its opposite base ; but the base is the negation of the acid. Obviously, then, the existence of the acid depends upon the negation of its own negation. It is thus, first, limited, and secondly, it is forced to destroy the relative finitude of its existence by combination with the base. Existing things, therefore, because their being is a necessary relation to their limit, are forced beyond themselves, beyond their limit, beyond their finitude. Their definition (as in the case cited, the acidity) consequently becomes at the same time their destination, — that of transcending their finitude, of ultimately becoming infinite. The definition of the Infinite is already implied in the foregoing results. The Infinite is, —

1. The absolutely Affirmative as the negation of the Finite ; but since
2. It *proceeds* from the negation of the Finite, it enters into mutual relation with this, and as such is the abstract, defective Infinite ;

3. The self-annulment of the Finite and Infinite as *one* process is the true Infinite.

1. We have seen that the Finite contains in its nature a contradiction, which forces it to a negation of its own limits. The Finite is being with a negation ; the negation of this negation is the Infinite, which latter is not therefore to be assumed, as in the usual views, as of *co-ordinate* existence with the Finite, without reference to it. The Infinite, on the contrary, is absolute being, which, after having limited itself in the Finite, restores itself from that limitation. It does not for this reason arise in an *abstraction* from every thing finite, but the true nature of the Finite is its infinitude, its absolutely affirmative determination.

2. The relation between the Infinite and the Finite is the following : The Infinite, being the negation of the Finite, is opposed to it as to its alterum, and the latter stands as the real existence of the former. As finite, however, this alterum contains the limit with the craving, the destination, to become infinite ; and this craving satisfied *is* the Infinite. The two, then, are inseparable ; the Finite is but the immediate origination of the Infinite, and *vice versâ*. The transition from the one to the other, from the Infinite to the Finite, and from the Finite to the Infinite, gives the so-called *infinite progress*. The connection between them is necessary, but appears as merely external in this progress.

3. Taking this union of the Infinite and Finite in its truth, we have the Infinite properly so called. The Finite is in its nature its own negation, and therefore includes the Infinite ; the Infinite, conversely, is not as immediate, but as the negation of the Finite, and consequently also affected by the latter. *Both, then, are the movement of returning to themselves through their nega-*

tion ; they are both results, and in this movement identical. In this identity consists the true Infinite. Once more I insist upon the precaution, not to confound identity in its ordinary acceptation, in which the supposed difference, upon closer inquiry, proves to have been only an apparent one, with this identity, which includes the difference. This will ever remain a mystery to those who have not seized upon the fundamental apperception, that a contradiction of the momenta pointed out by the understanding pervades all existences. Every one is prepared to admit, in case of necessity, that the Finite exists not without mediation ; but to predicate this mediation of the Infinite, likewise, runs counter to all our habitual ideas. The *exclusion* of all mediation is usually considered as the very criterion of the Infinite ; and this is a prejudice of which we must divest ourselves. The Infinite is not without the Finite ; it is, indeed, the negation of the Finite, but in this negation the Finite is indispensably expressed and contained.

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III. BEING FOR ITSELF (BEING *PRO SE*).

QUALITATIVE being reverting to its infinitude from its finite existence is *being pro se*. Existence contained being with the simple negation ; these two momenta were united, but without position in their identity. “ The sphere of existence is consequently that of difference, of duality, of finitude.” Being *pro se* is absolute determination *with reference to itself* ; whereas existence was determined only *with reference to the without*, to the alterum. — The following are the momenta of being *pro se* : —

1. It is immediate, simple being *pro se*, a unit ;
2. It effects its transition into multiplicity by *self-repulsion*, which multiplicity again annuls itself in *attraction*, until



3. This repulsion and attraction equilibrate in their mutual action, and introduce us to the sphere of *quantity*.

1. Being *pro se* is the infinite return of being to itself from its *alterum*, from its external, existential relativity, which is implied by it now as its mere momentum. It is existence, inasmuch as the negative nature of infinitude (the negation of the negation) has attained to position in the form of immediate determination. The determination, therefore, which in existence as such attaches to the without and appears as being *pro altero*, is now reflected upon itself, — it is determination in and with reference to itself. Yet, as a momentum, existence is retained in being *pro se*; in this sense the Finite becomes a process, and appears as being *for a unit*, which expresses the mode in which the Finite exists in unity with the Infinite. From the simple self-relation, finally, of the process of mutual negation results the *simple unity* of being and its momentum, an immediate unity founded upon negation.

The momenta of this unit, when developed anew, will be in the form of immediate being; each one, therefore, in the form of a separate determination; and the necessity of retaining them in their inseparability makes this development exceedingly difficult, as Hegel himself remarks (*Logic*, I. 174). We have, he says, 1. Negation generally; 2. Two negations; 3. Negation of two existences which are identical, and yet, 4. Opposed; 5. Self-relation, identity as such; 6. *Negative* self-relation.

2. In the unit all the momenta of being *pro se* have, in the words of Hegel, collapsed; its form is that of the Immediate. It is the relation of the *Negative* to itself, and thus it is *determining*; it is the relation of the *Negative to itself*, and thus it is infinitely *self-determining*.

But in the form of immediate being these differences lose the character of momenta, and are in position as *being*. "The ideality of being pro se in its totality, therefore, transforms itself into the firmest, most abstract reality, the *unit*, in which being pro se is the stated unity of being and existence, the absolute unity of relation to others and relation to itself"; but there is, moreover, the determination of being *against* the determination of infinite negativity, so that the being of the unit in itself now only affects it externally, as its alterum.

The unit taken by itself simply *is* the being in itself in position; all the categories of existence, determination, relation to the without, &c., have vanished in it. It is the simple mediation of existence and ideality, without difference and multiplicity. As a *negation* in position, it is the *void*; and we come again to an identity of the unit and the void, similar to the previous identity of being and naught. The unit and the void negatively refer to each other, are momenta of being pro se, just as being and naught were momenta of absolute origination, of the substantial "*fieri*" (*Werden*). The unit and the void are the *existences* of being pro se; and, kept asunder by the understanding, they constituted the atomistic principles of the ancients, who reduced the essence of things to "*τὰ ἄτομα καὶ τὸ κενόν*."

Being pro se exists, then, in its momenta, the unit and the void, of which each is determined as a negation and as a reality; the void being the negation in the determination of naught, — the unit, in the determination of *being*; the former, again, a reality as a mere relation to another reality without, — the latter, reality as such, as *being* pro se. "This being pro se relates to itself negatively; it being fixed as something immediately present, its negative self-relation is a relation to another being pro se; the unit is therefore the origination of many units." The

related unit contains the negation as relation, and is therefore essentially affected by it. Relation is immanent in the unit; inasmuch as this relation is a relation to itself as to an existing unit, and *yet negative*, the unit is essentially *self-repulsive*.

The self-repulsion of the unit is therefore but the explication of its nature; there is *no generation of one unit out of another*, but the Infinite in immediate, unital existence necessarily exhibits itself as this negative relation, as multiplicity. The unit as being *pro se* differs from mere being in this, that it is essentially related, not to an *alterum*, but to itself, as the unity of the "something" and the *alterum*. It is, therefore, as Hegel expresses it, absolutely incompatible with itself, forced to a position of itself as a multiplicity of units, self-exclusive. "In the multiplicity of units the Infinite produces itself as a palpable contradiction."

On the other hand, the repulsion is with equal necessity attraction, because it is not only *negative* relation of the unit, whence proceeded the repulsion, but also *negative relation* of the units to each other. They are each other's negation, repel each other, in order to attain to their position as units; but *as units* they are identical; the same act, then, gives rise to their position as identical and as different, to attraction and repulsion, — the former being the ideality, the latter the reality, of the units. Attraction and repulsion are not to be sundered as absolutely distinct, but to be taken as momenta of *one* process. In repulsion the units maintain and manifest themselves as units; they *are*, then, in virtue of their repulsion; in attraction they assert their reality as unity in general, with reference to which the particular units are evanescent. In this process, then, the determination of being *pro se* has progressed to *indifference*; we enter the sphere of

B. — QUANTITY.

IN repulsion the different units confer independent existence upon each other ; in attraction, conversely, their identity is asserted, and they tend to self-annihilation. Repulsion alone would lead to absolute *exteriation*, — attraction alone, to absolute unity, absolute *intensation*, destruction of matter. The combination of both, of unity and differential exteriation, is continuity in *quantity*. “Quantity is not, therefore, abstract unity, but the unity of units in their being *pro se*. The exteriation of multiplicity is yet contained there, but as a *continuum*. This continuity is self-equality, but of the Multiple, continuity affected with discretion.” Elsewhere Hegel in the same sense defines quantity as the unity of continuity and discretion, but in the form of continuity, in which discretion is lost as a momentum.

One of the antinomies of Kant (*ante*, p. 206) is, — “that every compound substance consists of, and is therefore decomposable into, simple parts”; and again, — “that no compound substance consists of simple parts.” The duality of existences is here exemplified. The former is the momentum of continuity, the latter that of absolute discretion, and the truth of both consists in their being taken only as momenta. Hegel justly observes, and shows, that *all* our ideas consist of similar antinomies or contradictions, and that their truth is their higher unity which includes them both, — that Kant’s catalogue is therefore by no means complete. The old Eleatic philosophers gave numerous instances of the same, relating especially to motion, &c., and resulting in the abstract being of Parmenides. Hegel animadverts upon the usual explanation of them by a construction of them into bare sophisms.

I. QUANTITY IN GENERAL.

QUANTITY is the *immediate* unity of continuity and discretion, — the position in one of the two as momenta. Quantity is, therefore, 1st, stated in the determination of continuity, and, 2d, in that of discretion ; in either instance, however, it is essentially affected with both momenta ; — in its continuity it is affected with discretion, and in its discretion with continuity.

In other words, quantity in its immediate relation to itself, or in the determination of self-equality resulting from attraction, is *continuous* quantity ; in the other determination of the repulsive unit likewise contained in it, it is *discrete* quantity. Nevertheless, the former is discrete likewise, for it is the unity of the Multiple ; the latter is equally continuous, for the unit appears only as the *sameness of many units*, as unity. Quantity, as the next result of being pro se, contains the two ideal momenta of its process, attraction and repulsion, *as* momenta, which again mutually include each other. There is consequently neither a merely continuous nor a merely discrete quantity ; and the separation of the two kinds is simply due to our abstracting reflection, which, in considering a given quantity, now abstracts the one, and again the other momentum.

“ Discrete quantity has first the unit for its principle ; it is next a multiplicity of units ; thirdly, it is essentially continuous, the unit as annulled, as unity, self-continuation in the dissection of the units. Its position is consequently that of *one* quantity, and its determination is the unit, which in its position and existence appears as exclusive unit, *limit* of the unity.” As distinct from continuous quantity, it is the negation, the limit, which refers to and comprises the units. Quantity with a limit forms a

II. QUANTUM.

A QUANTUM is the essential position of quantity with the determination of exclusion. The quantum is the *existence* of quantity, pure quantity or quantity in general corresponding to *being*. The difference of continuity and discreteness, which is ideally present in pure quantity, now comes into position, so that quantity appears as actually discrete, actually limited. Thus quantity disceces into an infinite number of quanta ; it is determined as *number*, in which the quantum attains to its complete development and determination. Number, again, includes multiplicity as the momentum of discreteness, and unity as the momentum of continuity.

III. DEGREE.

THE limit of the quantum is identical with the quantum itself. If I take the quantum hundred, e. c., it would seem, at first sight, that the hundredth unit alone constituted the limit ; but obviously, taking away any other unit, the quantum hundred is no more ; its limit is therefore in any of its parts. Now this limit in the capacity of an internal multiplicity constitutes *extensive* quantity ; in the capacity of a unital determination within itself, it is *intensive* quantity, or, as it might be rendered in English, *specific* quantity.

Some difficulty will be found in appreciating this distinction, for the following reason. Ordinarily, quantitative matter is assumed to consist of independent particles which cohere in virtue of an extraneous force. The only difference, therefore, between Hegel's *extensive* and *intensive* quantity would consist in this, that in the latter a greater number of particles was compressed in a given space. This view is rejected, and hence this new dis-

tion. The intensive quantum of course likewise contains extension, but as referred to a unity. *Intensive* quantity contains the multiplicity *within*, *extensive* quantity *without* itself. If we speak, e. c., of the 15th degree, all degrees are contained in this, but only as referred to the last, which is their unity. — A mass in the sense of *weight* is an extensive quantum, inasmuch as it consists of any number of pounds; it is an intensive quantity, inasmuch as it exerts a given *pressure*. This intensive quantum is *degree*.

QUANTITATIVE INFINITUDE.

THE quantum is essentially self-continuation into another quantity without it. The determination, in virtue of which it is quantity, lies absolutely beyond it in other quantities. Every quantum, then, necessarily refers to another quantum as to its limit; this new quantum in the same manner refers to a without, and so on *ad infinitum*. Quantity not only *can* be increased or diminished, according to the current mathematical definition, but increase and diminution are its nature; it sends itself, as Hegel says, beyond itself.

The quantitatively Finite refers to the quantitatively Infinite, just as well as the qualitatively Finite to the qualitatively Infinite. For the quantitatively Finite is first *limited*, and next its nature is "going beyond itself," necessary relation to an exterior quantity. But it relates to the Infinite only *at* itself, whereas the qualitatively Finite relates to its Infinite *in* itself.

The progress *ad infinitum* expresses the immanent contradiction of the finite quantum, and corresponds to the mutual action of the Finite and Infinite in the sphere of quality. But it is only the expression of this contradiction, not its resolution; the problem for the attainment

of the Infinite, its perennial generation, which leads to no product, — in which the Infinite never becomes any thing positive and present. The so-called infinitely great and infinitely small quantities are therefore nothing but this progress *ad infinitum*, nothing but the embodied contradiction in the nature of the quantum. The idea of the quantum in the sense of degree contains, first, the annulment of the quantum as such ; secondly, the annulment of the quantitative infinitude to which it refers : for it is a quantum only inasmuch as it ceases ; now it ceases in another quantum, which again ceases, and so on. The truth of the quantum is the unity of the particular and of the infinite quantity, in which both occur as momenta. In this unity the quantum has its determination in another quantum by means of its own annulment, becoming therefore once more qualitative. This is the *quantitative ratio* ; in the fraction $\frac{3}{8}$, e. c., the two quantities have no absolute value, but *momental* value only ; an infinity of numbers may be put instead.

In the quantitative ratio the individual quantity is strictly and solely determined by its relation to another quantum ; both quanta thus referred have no other value but that of their relation. This ratio is

1. *Direct*, where the *reality*, and
2. *Indirect*, where the *negation*, of one quantum is determined by the other quantum ;
3. *Potential*, the self-relation or self-production of the quantum.

The two quantities (terms) of the ratio are both determinate through the so-called exponent or quotient. This exponent is a quantum, but a determinate quantum only in so far as it *contains* its difference (the terms), — the unity and the duality. The exponent is the unity of this difference, of the two momenta. It is first a quantum,

and as such multiple ; next, it is the simple, unital determination of the two terms of the ratio, so that, if one of them be given, the other is also determined by the exponent.

C. — MEASURE.

THROUGH the ratio the quantity reverts to the sphere of quality, in which, however, the determination of quantity is retained. This is not a return to a previous form, but a *qualitative position of quantity*. Quality necessarily transforms itself into its truth, into quantity, where determination is indifferent to existence ; a quantity may be increased or diminished, and it still remains a quantity, therefore still remains the same *as* quantity. Now in this there is again a contradiction, which is resolved only in the union of quality and quantity, in qualitative quantity, or in *measure*, — a specific quantum, determined, not externally, but by the nature of the thing, by quality.

The self-equality of simple being reappeared in quantity, after the reflection of being into itself, so that the being of quantity was indifferent to its determination. This indifference, however, consists only in this, that the determination of quantity lies not *within*, but *without* it. The determination of quantity without itself is its exterior existence ; and this exterior existence, taken as referring to itself, is *measure*. Quantity is, as it were, externally qualified ; taking this qualification as reflected into itself, we have measure.

The unity of quantity and quality in measure is immediate ; quantity and quality consequently occur therein as momenta, without mediation. We have, first, quantity generally affected by quality, so that the latter appears as *rule* only, and the former may yet be augmented

and diminished at pleasure ; but this again leads to a contradiction, which was very aptly exposed by the Greeks, when they inquired, e. c., whether taking away one grain destroyed a heap, which was, on the one hand, answered negatively, since many grains might be taken away ere the quantity ceased to be a heap, but, on the other hand, affirmatively, as the taking away of but one grain eventually destroys it. — In this manner the quantitative nature of measure drives it beyond itself, — to the Measureless, which is, however, still a measure, as compared with and arising from the relation to the Measured, so that we are again whirled along in an infinite progress from the Measured to the Measureless, and conversely. The truth of this progress, the unity of the Measured and Measureless, is *essence*, in which all the determinations of being are annulled.

If we abandon for a moment the strict method of Hegel, and with it a terminology which in an English exposition must seem forced, we shall perhaps be better enabled to understand the transition from the first general category of the Absolute, *being*, to the second, *essence*. Being in its highest concretion is *measure*, the unity of quantity and quality. In the first instance measure appears only as the determination of quantity by quality ; both the extensive and intensive quantity of a thing depend upon its quality. Thus quantity is, as it were, thoroughly pervaded by quality ; it is internally qualitative. But it maintains itself also as *quantity*, susceptible of increase and diminution, — as indifferent to quality. We may add, e. c., several leaves to a pamphlet, or remove a part, without destroying the pamphlet ; thus quantity and quality are indifferent to each other. Yet if we continue this increase or diminution, it is finally no longer a pamphlet ; a mere change of quantity has also changed the quality ; quantity thus becomes quality.

The two then mutually annul each other ; what remains, however, is the *nature* of the thing, as it would be familiarly termed in English, or, as Hegel denominates it, its *essence*. This essence is the negation of immediate being, and of its momenta, quantity, quality, and measure ; it would not be without their annulment, and for this very reason it would not be without them. A tree, for instance, in its nature, is not the particular quality, nor the particular size, &c., in general, *not the immediate being*, of any given tree ; its essence results from their negation. Yet without them the essence would not be either ; it presupposes the momenta of being, therefore, in their annulment. *Essence proceeds from being by the negation of the latter.*

ESSENCE.

BEING returns from its differentiations to simple unity, — *essence*. Essence results solely from the negation of being, and implies it ; without this negation of being, and therefore without being itself, it would utterly vanish. Immediate being in contrast with essence constitutes *appearance* (phenomenality) ; essence might hence be defined *that which appears in itself*. Appearance in itself, without essence, without the inner nature, is nothing ; conversely, essence is nothing without appearance. Availing ourselves of a fortunate etymological peculiarity in the English language, we may say, that essence is the internal, unital *re-collection* of the immediate momenta of being.

Essence presents itself, first, as simple, under the form of identity, of reflection in itself, corresponding to the form of "*immediateness*" in being. Thus it is merely referred to the appearance taken as *external* to and dis-

tinct from it, which appearance is therefore assumed as unessential. But essence necessarily contains its own mediation ; it is *being in itself* only inasmuch as it refers to *being without itself*, — inasmuch as its negation, its appearance, is immanent in it. Essence stands in opposition to immediate being, from whose annulment it has nevertheless resulted, and which by means of this necessary annulment therefore maintains itself in essence, in the form of *appearance*. On the other hand, however, it is only *as appearance*, i. e. as something whose being lies only in its negation. Immediate being, appearance, is but the negativity of essence, which finds its immediate self-equality in this negativity. — Essence is in itself determinate, in itself concrete ; it contains its own absolute difference, by which it effects its self-mediation, of which *immediate being* and absolute negativity are the two momenta. — Resuming the momenta in the sphere of essence, we have

1. Essence in itself as simple and identical, as the basis of existence, — *cause*.
2. Essence in its appearance.
3. Essence as the identity of its *being* within and its appearance without itself.

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I. ESSENCE AS THE BASIS OF EXISTENCE. — CAUSE.

ESSENCE taken as pure reflection, and thus relating to itself, constitutes *identity*. Since the self-reflection, the identity, of essence is a relation of *pure negativity* to itself, it contains absolute difference.

Identity has frequently been made a principle for the operations of the understanding : $A = A$. In its ordinary acceptation this is an empty tautology. The difference is excluded, whereas the true identity includes the

difference. This is, however, suggested already by the form of the proposition : $A = A$, the subject being separated from the predicate.

The Deity has often been defined as the self-identical Being ; the question then arose, how this identity could proceed to the difference. The question supposes, that *abstract* identity, i. e. an identity remaining after putting aside all difference, and therefore all concreteness, exists independently, on one side, as it were, and the difference likewise on the other. The question is to be answered by being proved an absurdity ; an abstract identity such as that postulated is nothing.

The difference is first immediate *distinctness*, the objects being taken abstractly in their relation to themselves, and as indifferent with respect to their *mutual* relation. Thus they are compared *externally* only ; in this comparison they are stated as equal. on the one hand (for without this the comparison would be utterly impossible), and as unequal, on the other. Equality and distinctness presuppose each other ; they are not only *formally*, but *substantially*, correlative.

Difference *as such*, or difference per se, is the opposition of positive and negative, — the former the self-relation of the identity, as the negation of the negative, the latter the self-relation of the different, as the negation of the positive. This essential difference, or rather, this absolute difference of essence, is the antithesis in which the different is not only opposed to an alterum generally, but to *its* alterum ; its only determination is this simple opposition. The poles of a magnet, which formed so important an illustration in the Schellingian philosophy, are again an instance ; vitreous and resinous electricity, acids, and bases, &c., all present different things which would not be without their counterpart, — in whose “definition” that counterpart is implied as a negation, to

which the difference and opposition is essential. There is (and this remark has been made repeatedly) nothing in the universe without this difference, without this antithesis, without this contradiction ; and from this contradiction all life and movement proceed. The acid is restless until it has combined with the corresponding base, and so on. It is therefore a gratuity of the understanding to say that contradiction is not conceivable, and to judge every thing by the *principium exclusi tertii* : — of two contradictory things, one *or* the other.

The contradiction implied in the existence of the positive and negative, of which each is to be independently *per se*, and at the same time the immanent and necessary reference to the other, can resolve itself in nothing else than in the self-relation of the difference, the difference *per se*, the difference containing the identity. As such we call it *cause*.

The causal relation consists in the unity of identity and difference. We are forced to see every thing under a double aspect : first, as *being in and founded upon itself*, as essence, and next, as a *result*, as having proceeded from a cause. The cause, however, and that which proceeds from it, are identical ; the effect contains no more than the cause, and *vice versâ*. Nevertheless, reflection compels us invariably to keep them asunder ; it imposes upon us this duplicity, and hence the law, — Every thing has its adequate cause. While this simply expresses that things are inevitably conceived as dependent upon mediation, it implies, first, the identity of cause and effect (in the word *adequate* cause), and, again, their essential difference. Once more : difference and identity are not without each other.

Cause is no longer pure essence, whose nature it is simply to reflect, — essence which reflects in itself ; it is this essence restored after the reflection, or rather, the

essence in the reflection. Essence, when thus determined, becomes necessarily twofold : cause and effect, substance and form, &c., — in general, essence as self-identical *without* position, on the one hand, and *with* position, on the other. The abstract identity separately taken is the *substratum, substance, essence* ; the abstract difference, negativity, determination, is *form*. Their truth, however, is their unity in their difference, their internal inseparability in their separation. The form is consequently nowise something *added* to the substance, and accidental to it ; it is the essential reflection of the latter, without which this would not be. — The form, by which the substance is determined, taken as independent, is the momentum of the negative, — negation, the principle of self-destruction ; it reverts therefore in itself to the indifferent, indeterminate substance, which in this view is called *matter*, the formless identity. — Essence reflected itself as determinate in form ; now this form is necessarily related to the informal substratum. Neither form nor matter, then, is independent or eternal ; they presuppose each other. Matter *is* but the craving for form ; form is but the craving for materialization. Their mutual action is simply the disappearance of their apparent indifference or independent coexistence. What appears as the activity of form is equally the activity of matter.

Cause supposes something caused, and through this supposes itself. Substance presupposes something immediate, into and from which it reflects itself. The immediate existence thus presupposed is *condition*. The unity of cause and condition, of reflection *in se* and reflection without, the resumed totality of mediation, is *actual* existence, and this actual existence as unital is the *thing*.

II. APPEARANCE. — PHENOMENALITY.

ESSENCE, we have seen, is that which reflects. It differs from *being* in this absolute reflection, and this reflection developed is *appearance*. Essence is the contradiction of being in itself and being through mediation; this contradiction stated, given in position, is *existence*. Inasmuch as this presents itself as immediate, it is but apparent, phenomenal; its being consists in its reference to essence as to the basis or cause of existence. The constant unity *in* the exterioration, the substance *in* the form, constitutes immediate existence. The relation between the two momenta is, in the first place, the relation between whole and part. The substance stands as the whole, and consists of parts, which, though apparently independent of each other, are nevertheless *parts* only in virtue of their reference to the whole. On the other hand, the whole, when reduced to the parts of which it essentially consists, ceases to be a whole. The identity of this relation in immediate existence is therefore negative, i. e. an identity which necessarily annuls itself, repels itself into difference, and, conversely, necessarily reduces this difference to indifferent identity. This necessity gives *force* and its *manifestation*. Force is the whole as the negative relation to itself, as repelling and exteriorating itself. But this exterioration is at the same time an introversion, a return of force to itself; force is therefore mediated by exteriorating or manifesting itself. The truth of force and its manifestation is the relation between the two momenta, between the Interior and Exterior of a thing. The Interior is the abstract form of reflection in itself, opposed to the equally abstract form of reflection into the "without." Of course, there is no reality or truth in either of these two momenta thus held asunder by the understanding.

III. ACTUALITY.

THE unity of essence and outward existence, of the Interior and Exterior, is *actuality*. In actuality the position of essence and outward existence is given according to their truth, which truth consists in their being momenta only of the Actual. Isolated by the understanding, the former appears as abstract *possibility*, the latter as the unessential object of the senses, as the *Immediate* and *Accidental*.

The whole relation is the much discussed contrast between substance and accidents. The substantial reality *implies* the accidents ; the former infuses itself by means of the latter into existence, in order to revert therefrom to itself, and to proceed to a new actuality, so that the accidents as an essential, but on that very account unreal, momentum is destroyed. The defect in the philosophy of Spinoza was, that he neglected the necessary coherence between the substance and the series of accidentalities, whose play and variation, according to him, did not affect the substance. This apathetic endurance of the substance precluded all idea of personal activity, and consequently of unital reality, whence the universal repugnance to Spinoza's system.

The substance effects its transition into accidentality ; as self-reflecting, internal *cause*, it produces an *external* effect. The effect is but the cause in actual position. Effect and cause are to be distinguished, *although*, or, more properly, *because*, they are identical. The cause presupposes the effect, and conversely. Externally assumed, this abstract difference between cause and effect preëstablishes a second subsistence opposed to the first, *upon* which the effect is produced, — a passive substance, with reference to which the former is active. But the substantiality of the latter is at the same time causality ;

thus it becomes active in its turn and *reacts*. This reaction appears first as a mutual causality of opposed substances, of which each, with reference to the other, is active and passive at the same time. But both being substances, and both active and passive, they are no longer different. The passivity of the substance is conditioned by its own activity ; or the active substance makes itself passive by necessarily manifesting itself as effect ; it enters into reciprocation with itself through the effect. The substance as cause is first the necessity of manifesting itself, opposing the effect to itself ; but this necessity proceeds from its own causal nature ; it manifests *itself* in the effect, and thus it is *free*. In this freedom the manifest substance is the *idea* (*Begriff*).*

THE IDEA.

THE absolute substance which distinguishes itself as absolute form now no longer repels itself as a necessity, nor discedes externally into accidents, but distinguishes itself, on the one hand, as the totality reflected from its determination into itself, as the original whole, the stated self-equality, — the *Universal* ; on the other hand, as the self-reflected totality in the capacity of *negative* determination, likewise in its self-equality, — the *Particular* ;

* I have chosen the word "idea" to express Hegel's "*Begriff*," because its meaning approaches to it more closely than that of other terms. "*Begriff*" signifies the ideal complex of the properties, &c., of a thing. In Kant's philosophy, "*Begriff*" is taken in a quite different sense ; it may there be rendered by "notion," which would not answer here, since it is altogether subjective, whereas Hegel's "*Begriff*" is the potential object itself. The "*Idee*" of Hegel I have called "the idea in its identity"; the sense will be learned from the following pages.

and finally presents itself immediately as the negation of its negativity, in its simple identity, — the *Individual*. Universality and particularity, which in the causal relation cohered, as it were, by the bond of necessity, occur here only as momenta. The Particular is the momentum of distinct determination, the Universal the momentum of reflection into itself. The three totalities, the Universal, Particular, and Individual, are therefore the same reflection, which, as the negative relation to itself, distinguishes itself from the momenta of universality and particularity, and becomes determinate simplicity; and this is the *idea*, — free subjectivity.

The idea, generally taken, is the unity of being and essence. Essence is the first negation of being, so that the former opposes itself thereto as the inner reality of being; but the negation of essence, again, is the idea, in which being is restored on a higher stage, as the infinite mediation with itself through its own negativity. Essence resumed the immediate determination of being in its internal, reflective unity, the actual reflection *appearing*, being phenomenal, in the form of accidentalities; in the idea the immediate determinations state themselves as their own unity or identity, with the substance immanent in them as their negation. The immediate subjective idea exposes its momenta as permanent determinations, each of which is apprehended by the understanding as an isolated quality relating to the “without.” But the internal subjective nature of the idea removes this isolation and its separation from objective reality, transforming itself into its truth, the *objective idea*. Thus the subjective idea transfers itself, as it were, to the object, and abstracts from the subject; it makes itself the objective interior of external existences, becomes the *soul* of objective reality. But on the highest stage it identifies its subjectivity with its objectivity, recognizes the one in the

other, and as such it is the *adequate idea*, absolute freedom, in which the subject and object no longer stand opposed to each other as limits.

Resuming the above, we find that the idea is, 1st, formal or merely subjective in the momentum of essence; 2d, objective in the momentum of being; and, 3d, the absolute unity of subjective ideality and objectivity, — *the idea in its identity*, — subject-object.

The subjective idea, then, contains the momenta of *universality*, the general free self-equality of the idea in itself; of *particularity*, as the self-equality of the idea in its manifestation; and of *individuality*, — the idea reflected into itself from the determinations of universality and particularity.

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I. SUBJECTIVITY.

THE negativity of essence degraded immediate being, with which we began, to a mere appearance, to an external determination; in the idea this being reverts to itself, showing itself as the determination which is identical with its own totality, — the infinite unity of negativity with itself. This pure relation of the idea to itself, corresponding again to abstract being, is the *universality* of the idea. But being absolute *negativity* in its self-identity, it is, secondly, absolute mediation; it discedes into the Particular, in which the Universal, however, maintains, in which it continues, itself as the soul of the Concrete. The Particular *contains* the Universal, the Finite the Infinite, as its immanent substance. Their unity, the reflection of the Universal into the “without” with the inward reflection of the Particular, is the *Individual*.

The relation of these three momenta is *stated* in *judgment*. The abstract general judgment is contained in the

proposition, The Individual *is* the Universal. The judgment is not merely a subjective, formal operation, by means of which distinct ideas are associated, but it is the nature of the idea to particularize itself and to return to its identity in the *Individual*. The judgment obtains in the sphere of the Finite, and therefore belongs to the domain of the Understanding; in every finite thing the existence and the universal (generic) inner nature are identical, though different as momenta. The abstract judgment here adduced is solely the enunciation of the identity of subject and predicate, expressed in every judgment by the copula *is*. In saying, e. c., the Deity is the most real substance, the predicate is obviously the same as the subject, — it is the *exposition* of the subject. The judgment * is the diremption of the idea into its momenta, and the object of its process is the restoration of its unity. — The judgment is, in its simplest form, *that of mere existence*; the subject is abstract, immediate being, and the predicate an immediate determination. This difference annuls itself; the one is reflected into the other, and we have, secondly, *the judgment of reflection*. Thirdly, this reflective connection becomes *necessary identity*, — *judgment of necessity*. Since in this the judgment becomes formal, it is essentially subjective, and we have *the judgment of the idea* (abstract judgment), whence the transition is effected to the syllogism.

1. *The Judgment of Existence.*

In the subjective judgment the same object is seen double: first in its individual reality, and next in its essential identity; in the one case, the Universal realized as an

* The term "judgment" is retained, even when the English word "proposition" — "the judgment expressed in words" — would be more proper perhaps, for the sake of not introducing two words for one unnecessarily. Hegel invariably uses the word "*Urtheil*."

individual, and in the other, the Individual conceived in its subjective universality. As such, the judgment contains the correspondence of the idea to its reality ; it is truth. In this there is essential mediation ; the truth of the Universal is exposed in the Individual, and conversely. But the judgment at first is without mediation, and this is the judgment of *existence*, or, as Kant would call it, of *inherence*, because it is based upon the nature of the *subject*.

a.) Subject and predicate are at first mere names, whose real determination is given only in the course of the judgment. The subject is the abstractly Particular, Immediate ; the predicate, the abstractly Universal. The simple *positive* form of this judgment is, The Particular is universal, — and conversely, The Universal is particular. But in the first form the Particular, abstractly taken, is inadequate to the Universal, and in the second the Universal is an indefinite multiplicity of particularities, and not the Particular designated ; thus both forms, as given, destroy themselves ; we have, therefore,

b.) *Negative* judgment, where the forms are, The Particular is *not* (abstractly) universal, — and, The Universal is *not* (abstractly) particular. Here the relation between subject and predicate is still *formally* retained ; but the truth of positive and negative judgment is

c.) The so-called *infinite judgment*, in which the utter inadequacy of the subject and predicate is exposed. The *positively* infinite judgment is, The Particular is the Particular ; the *negatively* infinite judgment, The Particular is not the Universal. Here the relation between the original subject and predicate, *each separately taken*, is, indeed, annulled ; and we are forced to state explicitly in our judgment what is already implied in the identifying copula, — *that in the judgment they remain as momenta only*, and this is done in the *judgment of reflection*.

2. *The Judgment of Reflection.*

The first form of the judgment of reflection is again, The Particular taken as particular is universal. The essentiality of the Particular is here placed in the Universal ; but the Particular is thereby thrown beyond its singular particularity ; we are forced to say, secondly, Several particularities are the Universal, — *particular judgment* ; but this completes itself, thirdly, in the universal judgment, *All* particularities are the Universal. In this the subject, the Particular, is likewise raised to universality, and thus the *necessary* identity with the predicate is established ; the relation between the subject and predicate is one of *necessity*.

3. *The Judgment of Necessity.*

The judgment of necessity (*a.*) contains in its predicate the substance or nature of the subject in its totality, — the concrete Universal, the *genus* ; and at the same time in the Universal the determination as exclusive, — *species*. Thus it is *categorical* ; it

b.) States the two terms in the form of independent reality whose identity is *internal* only, so that the actuality of the one depends upon that of the other, — *hypothetical judgment*.

c.) The internal ideality of the two in actual position gives us the Universal in the Particular, in which the Universal occurs first as universal, and next as the entire sphere of exclusive particularity, whose “*aut — aut*,” as well as “*et — et*,” constitute the *genus*, — *disjunctive judgment*. In the disjunctive judgment the full identity of the Universal with the Particular (in its totality), or the immanence of the Universal in the Particular, is expressed, which immanence is the idea ; this brings us to

4. *The Judgment of the Idea,*

whose sphere is the *simple* totality, the idea, in its determination. When the predicate is the reflection of the Particular into the Universal, so that its correspondence or non-correspondence therewith is expressed, we have (a.) an *assertory judgment*. Every thing depends here upon the *idea* of the subject. But this subject is immediate, and the subject therefore does not contain the *essential* relation between subject and predicate ; it becomes in consequence (b.) *problematical*. When now (c.) the objective particularity is stated in the subject, when the Particular is the *nature* of the existing subject, the judgment is *apodictical*. Both subject and predicate then contain the entire judgment, which is founded upon the nature of the subject. It is the nature of the subject, which really forms the copula between it and the predicate, so that the "is," which was hitherto but a form, stands now as the fulfilled identity, the idea. The two extremes of the judgment, distinct before, now assume the place of momenta in the identical idea, *whose unity is stated together with its mediating relations* ; and the full exposition of this is

 THE SYLLOGISM.

THE syllogism is the idea as the simple identity to which the formal differences of the judgment have reverted. Every thing existing is an idea, is reason, and the *existing* idea is the differentiation into its momenta with their resumption into unity.

In the immediate form of the syllogism, the determinations of the idea, the Universal and Individual, are abstractly opposed to each other, so that the idea as their mean exhibits itself likewise in the form of abstract par-

ticularity. Such is the mere syllogism of the Understanding, in which the subsumption of an external subject under the Universal is effected. The first form is again

1. *The Syllogism of Existence, — Qualitative Syllogism,*

a.) with the form, Individ. — Partic. — Univ., — in which the subject as individual is united with a universal determination by means of a particular quality. This syllogism is quite contingent, because the co-including middle is but some particular quality of the subject, one of the many belonging to it as to the concrete subject, so that by means of other particular qualities it can be allied to numerous other universalities. It is inadequate to the true nature of the syllogism, which is the union of different extremes in the middle, in which they are identical. The Individual in the conclusion is equally the uniting mean of the Universal and Particular, so that we have

b.) the form, Partic. — Individ. — Univ. — In the conclusion of this, again, the Universal is united with the Particular, by means of the Individual, so that it becomes next the middle in

c.) the form, Partic. — Univ. — Individ. — The three old Aristotelian forms result from the circumstance, that every momentum (term) becomes in turn the identical Whole and the mediating term. Every term having thus successively occupied the middle and each of the extremes, the difference is annulled, and the identity is founded upon equality, — *the identity of the understanding*, which is sometimes adduced as the *quantitative or mathematical syllogism*, or given as the mathematical axiom, "The whole is equal to its parts." — In reality, every momentum has been stated now with the determination of the concluding middle, and thereby the mediation has become complete in the circle of mediations which mutually presuppose each other. The unity of the

Individual and Universal has been evolved as their *reflected* unity ; hence

2. *The Syllogism of Reflection.*

In this syllogism the middle is (a.) the totality of the individual, concrete, determined subjects, not the mere abstract determination,—*syllogism of universality*. (b.) The totality constituting the middle is but empiric,—*syllogism of induction*, where the totality is barely formal ; hence (c.) *the syllogism of analogy* results, where the middle is individual, but in the sense of the *Generic*, since the apparent totality of observation can serve only to *suggest the nature* of all individuals. Finally, in

3. *The Syllogism of Necessity,*

The Universal, as essentially determined, constitutes the concluding middle, which stands (a.) as the Particular in the sense of the determinate genus,—*categorical syllogism* ; (b.) as the Individual in the capacity of immediate being, which is both immediate and mediate in the syllogism,—*hypothetical syllogism* ; (c.) as the Universal in the totality of its particularities, and as an individual Particular, an exclusive unit,—*disjunctive syllogism*.

The syllogism now stands in its truth. Every one of the momenta (terms) has become the totality of the momenta ; their identity has in this manner been established by the negation of the differences and of their mediation. The idea has been *realized* ; the Universal is the unital totality reverting to itself from its differences in the Particular, which collectively likewise constitute this totality. Immediate unity has been restored by the negation of the mediation through the Particular ; the result is the *object*.

II. THE OBJECT.

THE object is immediate being by its indifference towards the particular momenta which have been annulled in it ; it is the immanent identity of the different momenta which constitute the totality. These momenta, however, maintain themselves as separate, each constituting a totality, since the unity is merely the indwelling idea ; thus the object is the absolute contradiction between the perfect independence of the Multiple and their perfect dependence.

Objectivity contains the three forms of *mechanism*, *chemism*, and *teleological relation*. The mechanically determinate object is the immediate, indifferent object, the unity of whose differences is but external to them. In *chemism*, on the contrary, the object appears as *essentially different*, so that the respective objects are determinate only by dint of their *relation*. The unity of both is *teleological relation*, where the object or end is again the mechanical, comprehensive totality, but as completed by the essential relation of the parts.

1. *Mechanism*.

The object as immediate is simply the idea per se without position,—the idea as externally subjective being. The idea manifests itself solely as the unity of different particularities, and the action of the object remains an exterior relation,—*formal mechanism*. Different objects, therefore, likewise remain perfectly external to each other ; they exhibit themselves as separate and independent in their dependence.

The category of mechanism is that most generally dominant in science, though it is insufficient for understanding even the relations of nature to the mind, which becomes obvious in examining the applications made of it to organic

functions, such as the assimilation and increase of plants, animal sensibility, &c. Yea, the purely physical relations, light, heat, electricity, for instance, fall beyond this category. Mechanical actions are certainly to be recognized, but only as subordinate to and based upon higher functions.

The bare external independence of the object proceeds, nevertheless, from its separation from other objects, from its being their negation ; the object is, therefore, likewise *negative unity within itself*, centrality, subjectivity, which establishes a necessary reference to other objects, *different mechanism* (craving, sociability, &c.). This relation developed forms the conclusion, that the immanent negativity as the central individuality of the object refers to dependent objects as to its other extremes, through a medium which comprises the *centrality* and *dependence of objects*, — *absolute mechanism*. An illustration of these three forms is furnished by the political state : the particular person — the formal object — is joined by his individuality (mental and physical wants, which make him a *different* object) to the Universal, to society, in which lies his absolute existence.

2. *Chemism.*

The independence of existence is mediated by the relations of objects to each other ; thus the *immediate mechanical* independence is annulled. The object is therefore to be stated as different in its existence against *its* counterpart, *its* alterum. The immanent determination of the object, in virtue of which it exists, is in contradiction with its external relationship ; it consequently embodies the tendency to destroy this contradiction, and to identify its outward existence with its idea, — *chemism*. In mechanism the objects are but externally related, related to an alterum generally, and the semblance of

independence is retained ; in *chemism* the relation stands between the object and *its* (peculiar) alterum, its complement, as it were, to the opposition to which it owes its determination and existence. The product of chemism is the neutrality of the polar extremes thus opposed ; the general idea comes to its individuality by the union of the particular differentials. Chemism, however, being the reflectional relation of the objects, includes and presupposes the difference ; the neutrality is therefore again relative ; it differentiates itself again to the independence of the momenta. The idea as such is not as yet stated here ; it is simply the prompting interior of the process ; now, since this process is neutralizing, on the one hand, and differentiating, on the other, the idea as unity emerges free from this antagonism, — as *purpose* * or *end*.

3. Teleological Relation.

Purpose or end is the idea stated as existing for itself by the negation of immediate objectivity. This negation of the object is at first subjective, opposing itself to objectivity ; then the contradiction destroys itself anew, — the purpose is realized. Instinct and craving are instances where the purpose is felt as the contradiction between subject and object, which is annulled in their gratification.

The teleological relation herein established is at first merely the external adaptation of means to ends, and the idea stands in face of the object presupposed. With this the subjective purpose concludes, coalesces, constituting *activity conformable to a purpose*, and as objectivity immediately *subjoined* to the purpose, as *means*. The pur-

* I have no other word, sufficiently definite in its meaning, expressive of the *end* for which an object exists. *Purpose* here is not meant solely as the *intention* of conscious activity, which is the exact sense in English ; but simply as the general *design* of a thing (*Zweck*).

pose develops itself up to the idea in its identity on three stages : 1st, as subjective purpose, including the totality of the idea's momenta, — *ideal universality*, in which nothing is as yet particularized ; 2d, as the purpose realizing itself in particularities ; and, 3d, as the purpose actually realized, — the conclusion of the particularities with the subjective purpose. In the first the opposition between subject and object is stated ; in the second the object is used as means, — the activity is directed towards the without ; in the last the unity of the Subjective and Objective is established. The unity of the subjective idea and objectivity is the *idea in its identity*.

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III. THE IDEA IN ITS IDENTITY.

THE truth of the idea is its identity with the object, — its complete realization, the perfect conformity of the object to it.

The idea in its identity is not only the goal towards which all existences tend, but it is the absolute substance, constituting the ground of all existences. The idea is not unfrequently contrasted with reality as the subjective criterion of the latter ; and it is said that no reality corresponds entirely to its idea ; but a reality without this correspondence would be — a nonentity. Finite things crave other finite things for their reality ; their inadequacy to the idea is the source of their finitude. That they are incongruous with the idea gives them the aspect of untruth, of bare objectivity, according to which they are mechanically or chemically determined.

The idea in its identity may be comprehended as reason, — as subject-object, as the unity of the Ideal and Real, of the Finite and Infinite, of body and soul, as the possibility including its own reality, &c., since in it all the relations of the understanding are contained in their

infinite resumption and identity. — On the other hand, it is an easy task for the understanding to show the contradiction in that which is enounced concerning the idea. The subject, it may be asserted, cannot be simultaneously the object, &c. But it has appeared in the foregoing investigation, that a subject which is *merely* subject, a finitude which does not contain an infinitude, and so on, are without truth, and by their self-annulment proceed to their contrary, until the opposed extremes ultimately resolve themselves into bare momenta, and merge in their higher unity. The understanding is always guilty of the blunder, that it assumes the disceded extremes of the idea, not as concrete, but as abstract, or, which is the same thing, as absolutely separate, isolated, saving itself from the contradiction in which it invariably eventuates, by the allegation, that this contradiction is a mere external reflection, altogether foreign to the idea. This contradiction of the understanding, however, is the self-determination of the idea, which eternally separates the Infinite from the Finite, the Identical from the Different, the soul from the body, and thus is eternal life, eternal creation, eternal spirit. But it reconciles this contradictory opposition, and enlightens the understanding respecting the fallacious semblance of distinctness and independence in its productions; it is the internal intuition of itself in its “alterum,” the idea realizing itself in its object, the object which exists in internal correspondence to itself, to its own purpose.

The idea in its identity is essentially a *process*, because its identity proceeds from its negativity, because it is inherently dialectic, self-distinguishing. Its activity consists in this, that the idea as universality determines itself as objectivity, as its own counterpart, and that this objectivity, whose substance is the idea, reduces itself again, by its immanent dialectics, to subjectivity. It follows from

this, that the expression, unity of the Finite and Infinite, of being and thought, as presented by the understanding, is improper, if the identity be made to signify quiet, constant unity, whereas it is the unity of a process.

The idea as a process percur in its development three stages. The first form of the idea is *life*, i. e. the idea as immediate. The next form is that of mediation, *cognition*, appearing in the twofold aspect of the theoretical and practical idea. The process of cognition results in the restoration of the unity, enriched by its various material, which last stage is the *absolute idea*.

1. *Life*.

The idea, distinct from its objectivity, penetrates it and reduces its multiplicity to an immanent unity. As such it is life, the dialectic process of exterior objectivity, by which it is incessantly reduced to unital subjectivity. The understanding is completely at a loss in endeavouring to conceive the subjective identity of the externally Manifold, because it does not comprehend that the idea is the true substance, the creative soul, of the latter. Life is individual, because it is the ideal negation of the objective Particular, and therefore refers to a given actuality.

In life the idea is, as it were, infused into actuality ; it is the omnipresent unity of the Multiple, the principle of sensation, in which all the particular affections merge in each other. Life is a process in which its unity discedes, makes corporality its own object, its " inorganic nature " ; it manifests itself thus as *sensibility*, an omnipresence in which the exterior atomism of the body annuls itself at every instant, — the mere vibration in itself ; as *irritability*, the internal diremption of the living subject, where life manifests itself as instinct, the necessary relation to objectivity ; and as *reproduction*, its self-restoration from the difference of its members and organs.

But in this continuous reproduction the idea maintains itself independent and separate from the vanishing and changing objectivity ; it consequently, secondly, distinguishes itself therefrom, discards it as a separate totality, and postulates, presupposes it as its inorganic counterpart, whose independence it constantly annuls, and which it assimilates. Having thus first stood as subjective idea, and next assimilated the object, it now becomes,

Thirdly, substantial universality, *genus*, in which the objectivity is stated as identical with subjective life, — in which an objectivity is presupposed, which is again individual, because it is perfectly identical with the unital subject. The reality of this is the sexual difference. The sexual process realizes the species ; the living individual, which was before presupposed as immediate, now appears as mediated, generated, and again, the living individual, which at first stood *opposed* to universality as negation, now merges and perishes in it. Whatever lives is subject to death, because it is the inherent contradiction of being individual in its existence, and yet universal, *generic*, in its truth.


In the sexual process the idea of life has not only liberated itself from any *given* particularity, but it has become thoroughly free from *particularity as such*. The death of living individuality is the birth of the mind, of living universality.

2. Cognition.

The idea exists free for itself, because universality, its nature, is now the element of its existence, — because the idea is its own object. It repels itself as the object and presupposes itself as the external Universe ; it approaches the Universe, which presents itself as different from it, with the full confidence that this difference will annul itself, — that it can appropriate the Universe, *know* it, that it will

recognize it as identical with its own being. It is therefore urged, first, to remove the mere subjectivity of the idea by the assumption of an objective world corresponding to it, — *the yearning of the mind after knowledge*, the desire for truth, — and, conversely, to annul the apparent independence and accidentality of this objective world, and to assimilate it to its inner spiritual nature. The former is *cognition properly so called*, — the latter, the impulse to realize the idea everywhere, to do good ; the former the *theoretical*, the latter the *practical*, activity of the idea.

The idea first opposes itself to objective multiplicity, assimilating this to its own spiritual unity. It is not only opposed to the *Manifold* as a *unity*, but likewise as a unity to the *Manifold*, and consequently appears in the difference of momenta. In this capacity it is the *understanding*, — the mere reflection of the Multiple. The idea is active in the understanding, but in a peculiar determinate form. It thus separates its unity from external multiplicity, and preestablishes the two as different, — the former as abstract generality or universality, the formal “*idem*” of the understanding, into which the concrete particularities are resolved by isolating the different determinations, and making them abstractly general ; or by seizing upon the Concrete as cause or essence, rejecting the particular distinctive traits as unessential, and thus attaining to genus, or force, or law. Such is the *analytical method*. All cognition is in the first place analytical. Conversely, in the *synthetical method*, the momenta of the idea are taken and the particular existences “subsumed,” i. e. construed accordingly. The analytical method proceeds from particularities to the idea ; the synthetical method from the idea to particularities. The synthetical method proceeds upon *definitions*, upon the determinations of the idea, previously furnished by analysis. The



definition always contains the three momenta of the idea : the Universal (*genus proximum*), — the Particular (*qualitas specifica*), — and the Individual (the defined object).

After the definition has been given, after the Universal has been stated, the Particular is adduced in the classification of the so-called "material," according to external peculiarities, until, thirdly, the simple determination of the definition is taken as *relation* in the concrete individualities, so that the object becomes the synthetic relation of different determinations : a theorem in which the adduction of the mediating material forms the construction, and the exhibition of the necessary relations the demonstration. The necessity resulting from the demonstration is at first subjective, external only. But the idea relating to itself is *necessity as such*, and thus the starting-point, where the object was taken just as found, has been abandoned. The subjective idea has thus arrived at self-determination, — at determination not given from without, but immanent in the subject, — at the idea of *volition*. At the starting-point cognition had a casual material, externally adduced ; now, at the close of the process, it knows its material as *necessary*, and all necessity depends upon subjective activity. "At first, subjectivity was a bare *tabula rasa* ; now, it is the determining agent, and therein the transition from the idea of cognition to that of volition is contained, which consists generally in this, that the Universal in its truth is to be taken as subjectivity, as the idea, self-moving, active, and productive of determination."

Volition.

The subjective idea as its own determination and material is the Good ; it is impelled by its own nature to realize itself in the world around, whereas in the desire

for truth it strove to recognize itself therein. In attempting to realize itself, it, on the one hand, presupposes the world as nugatory in itself, whilst, on the other, it maintains the independence of the same, and states the idea of the Good (the beau ideal) as subjective only. Its activity therefore shows itself as finite in the contradiction, that in the determinations of the objective world the Good is both realized and unreal, essential and unessential, actual and merely possible. This contradiction is exhibited as the infinite progress towards the Good, which stands fixed only as an eternal solicitation. Intelligence takes the objective world as it *is*, the will tends to make it what it *shall be*.

The Kantian and Fichtean philosophies are both engaged in this contradiction of the will. The will is but the Good in its activity; if now the Good were completely realized, the will, and consequently the actively Good, would cease, so that the will demands, conversely, the non-realization of the Good. The only resolution of this difficulty is the reconciliation of intelligence and will, — that the purpose of the latter, the idea in its truth, be recognized in the objective world. The never-satisfied endeavour ceases, when it attains to the consciousness that the purposes of the world are eternally realizing themselves. *The Good exists only by eternally producing itself*; the unity of the theoretical and practical idea is thus established, since the idea states itself eternally as its own object, and realizes itself by its activity. This life, which has returned to itself from the difference and finitude of cognition, and identified itself therewith by the activity of the idea, is the *absolute idea*.

3. *The Absolute Idea*

is, then, the idea thinking itself, — the unity of the idea of life and the idea of cognition. It is the pure ideal

form in the intuition of itself as its own material ; distinguishing itself from, but also identifying itself with, itself, — the totality of form constituting at the same time the system of objective determinations, the system of logic, of which the form of the idea is the method. The absolute idea presents again the unity and simplicity of the original being ; it is simple relation to itself. But it is *being*, filled with all its determinations, being developed to its highest unity, the absolutely intensive totality. It is the pure idea which has itself for its object, percurring thus the totality of its determinations, developing itself to its scientific system, and resuming this process of self-comprehension in itself. The idea thus reverting to the absolute unity of being dismisses, as it were, the totality of its self-determinations from its bosom in order to its perfect liberation, and this external totality of the ideal determinations is *nature*.

HEGEL'S PHILOSOPHY OF NATURE.

NATURE is the idea in its infinite negation, — in the form of exterioration. The question, how the idea takes the resolution of shaping itself out in the absolutely Heterogeneous, answers itself in this, that the idea is simply the resolution of stating itself outwardly, as objectivity, in order to comprehend itself as a spiritual subjectivity. The process of this self-comprehension — of the idea's return to itself — is exhibited in the Philosophy of Nature. Unquestionably, nature is a stranger to the idea, but only in consequence of the self-estrangement of the latter. The idea determines itself, i. e. states itself in the form

of differentiation, discedes into its momenta, and is nevertheless totally present in each of them.

The differences constituting the realm of nature lie slumbering, on the one hand, in the eternal unity of the idea, and are resumed, on the other, in the individual, human mind. Such is nature's logical process, — the dissection of the idea into particularities, and its re-identification in the Individual.

Nature is in herself the process of the evolution of the spirit from her own bosom ; and consequently embodies the spiritual presence throughout. Nature without the spirit would be the *caput mortuum* of the understanding. Surveyed, measured, and, as it is called, comprehended by this, material existences are a chaos without connection and unity, — strange to each other, as well as to the mind. The philosophy of nature gives us the consciousness, that this apparent chaos awakens to its own intelligence, and that its true existence is but the process of this awakening.

A very common question is that respecting the eternity of nature or of the world. It implies, first, the conception of an infinite time, without beginning, and, secondly, that of an infinite subsistence of the world independently of the Deity. This subsistence is of course annulled by the definition of nature as the mere exterioration of the absolute idea ; the former conception proceeds from a misapprehension of the word *eternity*. Eternity neither precedes nor succeeds time ; it is neither anterior to the world's creation, nor subsequent to its destruction ; eternity is absolute presence, to which the categories of precedence and succession are utterly inapplicable. The world is constantly being created, inasmuch as it is constantly being preserved. The impossibility of answering the above question in the sense in which it is asked arises from the circumstance, that time and space can be predi-

cated of the sphere of finitudes only ; there is no time previous to this sphere, to the existence of the world.

Material nature presents the appearance of thorough particularization, without any connecting link or pervading unity, — of necessity, therefore, and accident, not of freedom ; the differences and contradictory determinations of the idea are here exposed without their reconciliation. Nature's particular forms are on this account nowise to be deified or preferred to ideal creations, e. g., to the productions of art, for they are always inadequate to the idea.

The idea of which nature is the reality progresses towards its complete self-position, and nature therefore systematically exhibits the different stages of this progress. The metamorphosis of nature's forms, so much agitated since the revival of a profounder study of natural sciences, is not to be understood as an emanation of one form from another, in a material sense ; but as the advancing verification of the idea, in which each succeeding stage is the truth of the preceding one. Animal nature is the truth of vegetable, and this again of mineral nature ; similarly in the minor classifications, the superior organizations and forms are the truth of the inferior forms. The completion of one stage in and through another is the necessity of the idea ; but it is ridiculous to imagine, that a terrestrial animal, for instance, first proceeded from an aquatic one, which then flew into the air, and subsequently perhaps fell back upon the ground. Equally preposterous is the idea of a *mechanical* addition of organs to a primitive simple form.

The two principal theories framed to account for the diversity of organic forms are those of *evolution* and *emanation*. In the former an advance from the simpler to the more complex, from lower to higher forms, has been assumed ; in the latter, conversely, the inferior forms have been deduced from an original perfect model by a series

of deteriorations. The latter view has this advantage, that a perfect type, a comparison with which can alone give a clue to the imperfect forms, explain their *intentions*, is constantly kept before the mind.

The contradiction of the idea in being external to itself in nature is that between the ideal necessity of its formations, the rational determination in their organic totality, and their lawless, confused accidentality. In the sphere of nature, accidentality and mere outward determination are of their proper force ; and we must be especially on our guard not to confound the absence of all regularity with the exalted freedom of the idea.

Nature per se constitutes a living whole, living in virtue of the progressive self-realization of the idea. The idea of nature exists, first, determined as perfect exterioration, as infinite particularization, in which the formal unity is but an ideal and therefore required one, — *matter* with its ideal system, *mechanics* ; secondly, determined as *individuality*, existing with immanent formal unity and difference, — *physics* ; thirdly, determined as *subjectivity*, in which the real differences of form are reduced to the ideal unity per se, — *organics*.

Matter is that form in which nature's exterioration has its first subsistence. The unity of the idea, *its being pro se*, manifests itself there only as a tendency, — *gravity*. But this unity is not as yet the power which brings the particularities to subjection, it is not *individuality*, the sway of form over the mass, which is attained in *physics*. Still the particularity as qualitative determination, and being pro se as the point of individuality, coincide ; the individuality is attached to exclusive specific properties, not present as a totality. A physical body ceases to be what it is, when it enters a process ; as it is, the qualitative determination occurs in affirmative position only, not at the same time negatively. In *organics*, the individual

totality unfolds itself to its differences, which, on the one hand, severally represent concrete totalities, and, on the other, remain distinct against each other as specific properties. Thus the eternal life of nature consists in this, that the idea exhibits itself in every sphere, just as the sun is reflected in every dew-drop ; but that, next, the dialectic force of the idea breaks through the bounds of this sphere, and effects its transition to a higher and more adequate one.

A. — MECHANICS.

MECHANICS consider, first, *abstract* exterioration, — *time* and *space* ; secondly, *individualized* exterioration, and its relations in the above abstractions, — *matter* and *motion*, — *finite mechanics* ; thirdly, matter in the freedom of the idea per se, — *absolute mechanics*, the theory of *free motion*.

Exterioration as *positive* is *space* ; as *negative*, *time*. The first concrete unity of these abstractions is matter ; this in being referred to its momenta is referred to itself, — in *motion*. That reference, not *externally*, but *internally* taken, is the absolute unity of matter and motion, — self-moving matter.

SPACE AND TIME.

THE abstract universality of nature's exterioration, as immediate, is *space*. It is the ideal *beside*, since it is exterioration ; and absolutely continuous, inasmuch as this exterioration is perfectly *abstract*, without any determination.

Space is affected with the determinations of the idea

which it represents ; hence the differences of the so-called three dimensions. In these the difference is still quite abstract ; it is of no consequence which of the dimensions be taken as length, breadth, or height. But the difference necessarily becomes determinate, qualitative ; thus we have, 1st, the *negation* of space, the *point*, — which negation exhibits itself, 2d, as the negation of *space*, and therefore as spatial in itself, the *line*, — of which the truth is, 3d, the negation of the negation, the *surface*, inclosing an individual space, in which, therefore, the spatial totality is restored. Not that the point generates the line by its motion ; but it is the nature of the point to be an immanently external reference, spatial reference, and thus to become linear. So of the line.

The negativity, which, as point, refers to space, and within it develops its determinations to line and surface, also exists by itself in the sphere of exterioration, as *time*. Time is negation as such, referring to itself. Space is quantity immediately existing, in which every thing endures, and even the limit occurs in the form of subsistence. In space lies this contradiction, that it is affected by negation, which, nevertheless, appears as indifferently permanence. Space is but the internal negation of itself, and its truth therefore is the self-annulment of its momenta ; this incessant self-annulment as existing is *time*. Pure quantity, as the difference existing for itself, is time. The transition from space to time is not, therefore, subjective only ; space necessarily effects this transition.

I may, perhaps, for a moment, again relinquish the expressions of Hegel, and word these first relations, if not more intelligibly, at least differently. — The Exterior has its being, not in itself, but in the idea. It exists only by its absolute reference without itself, and is consequently the inherent struggle between its own assertion and negation. As opposed to the idea, in its first phase, as it

were, it is abstractly infinite extension, *space*, and thus appears as permanent ; but, in truth, it is thoroughly a conflict with itself ; it is by *not being*, and is *not* by *being*, thus exhibiting itself as *time*. Hence it is justly observed by Hegel, that time is pure origination brought before our intuition.

It is a very trivial remark, that every thing arises and disappears in time, — that time carries away all existences. Time is, indeed, nothing but this process of appearance and disappearance, of origination and evanescence, — Chronos, who destroys his own offspring.

Absolute “timelessness,” *eternity*, is to be well distinguished from duration. Ideally, time itself is eternal ; the “now” or any particular moment is not time, but the idea time, which, like every idea, is eternal, absolutely present. Duration is but relative annulment of time ; eternity is its absolute annulment, — duration reflected into itself.

The dimensions of time, past, present, and future, are the origination of the Exterior as such, the transition of being into naught and of naught into being. These differences vanish immediately in the individual, present “now,” which, as simultaneously excluding the other momenta (the past and future), and yet continuing itself into them, is itself nothing else than this disappearance of being in naught, and conversely.

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PLACE AND MOTION.

THE negation of space is time, and, conversely, the position of time is space ; their unity is their transition into each other. This immediate unity is *place*, the spatial “now” and the temporal “here.” But this unity is the unity of a contradiction ; time states itself in space

and space regenerates itself in time, and thus it is *motion*. Motion, however, is equally the collapse of its contradiction in itself, the immediately identical, existing unity of the two, — *matter*.

Matter has been defined, 1st, as *compound*, and this refers to its abstract, spatial exterioration; 2d, as *impenetrable*, which results from its existing at once for a "without" and for itself. Matter maintains itself in its indefinite particularization by its *repulsion*, the momentum of negativity, and, conversely, in its continuous identity by its *attraction*. The attraction of matter produces *continuity*; gravity reduces the continuous particles to a unity as the negative relation to itself, to individuality or unital subjectivity, — a reduction which remains an eternal craving. Matter incessantly *seeks* its ideal unity; hence its gravity.

Matter, as universal and immediate, is at first affected by quantitative difference only, and separates into various quanta or masses, which, by a mere superficial unity, constitute bodies. Matter *fills* space, i. e. it is a real limit in space, since as being pro se it is exclusive, which space is not. A body is lasting, according to its determination in space, and perishable, according to its determination in time. It is, indeed, the unity of time and space, but only as abstract, immediate, and not as the mediated, restless unity, with immanent motion. The material body is therefore inert; as such it is considered in finite mechanics, where all motion is referred to impact, to an external causality. This is perfectly correct, so long as we confine ourselves to terrestrial masses, whose true "self" lies beyond, and whose movement on that account originates without them.

Impact is the momentary identification of two bodies, which, as masses, differ quantitatively only. Thus their motion is the same.

Material bodies are yielding and soft, inasmuch as their unity is but ideal, and demands an annulment of their extension; on the other hand, they are hard and resisting, since their unity depends, moreover, upon their difference from, and repulsion of, external masses. The balance of these forces is *elasticity*.

Matter, it has been shown, is inert, i. e. perfectly indifferent to rest or motion. *Resistance* of a body is therefore, in a state of rest, what *momentum* is in a state of motion. In these, bodies attain to their being *pro se*; in both they assert themselves in their independence. This independence results from their gravity; bodies resist, therefore, only in virtue of their gravity. Even independently of these preliminaries, it is seen without difficulty that gravity and impact are the two factors of finite motion.

Gravity concentrates itself in the body as an intensive quantity, — in the *centre of gravity*. The fall of bodies is their motion towards an ideal centre; it is free, because it proceeds from the idea of the body, whose nature it is to seek its own ideal evanescence; but only *relatively* free, since gravitation exhibits no more than the *first* negation of corporality, and not the free vital agitation of the idea. It is the *tendency* realized, not the *idea*. The realization of this occurs in the free motion of the celestial bodies, where matter universally states itself in particular masses, and attains to its individuality in the phenomenal existence of moving bodies. The universal mass of materialities divides itself, according to its inner logical predestination, into several celestial bodies, and becomes *individual* in their movements, which exhibit their ideal unity. The motion of these bodies concludes the Particular with the Universal, and generates the individuality; it is simply the essential relation between the different, concrete masses. The cosmic bodies are each *pro se*

independent, and at the same time continuous with each other; in their motion this contradiction exposes itself. They are the full realizations of the idea of gravity, and their determinations are consequently the momenta of its idea. The first opposition is that between the universal centre of abstract self-relation and immediate individuality; the particular bodies stand in the capacity of independent as well as relative, intensive as well as extensive existence. — Materiality without a centre particularizes itself in the antithesis between the lunar and cometic masses.

Hegel polemizes against the mechanical theories of cosmic movements, and spurns the doctrine of extrinsic attractive and repulsive forces, by which the inert masses are said to be impelled. The movement is an inevitable result of the formation as well as existence of the bodies; it is, in a word, essential to them, and the centrifugal and centripetal forces, usually spoken of as entirely distinct, are merely the strife between the two momenta of individual existence and universal attachment. The vindication of ideal necessity in these relations against the fortuity of superinduced forces, and the rational deduction of attractive and repulsive forces, is one of the worthiest efforts of Hegel's philosophy; but it would be going too far, to urge this deduction as an instance against the systematization of celestial mechanics now so universally recognized and so minutely tested. Several of Hegel's disciples seem to have been betrayed into this by a few somewhat unguarded expressions of their illustrious master.

In the view of Hegel, the representative of the centre of abstract existence *pro se* is the *sun*. The extended materiality of the sun is the cause of his rotation; the particles, or rather, points, are determined solely by gravitation in one direction, remaining indeterminate as to place in every other respect; they successively, therefore, occupy every station consistent with this one determina-

tion ; they *rotate* around their ideal centre. While the Universal is thus represented by the sun, the planets are the bearers of individuality ; what has just been said with respect to the sun obtains likewise of them, with this addition, that they have at the same time the point of individuality *within*, and that of universality *without* ; they are therefore prompted by centripetal and centrifugal action, and *revolve*.

The *cometary* masses are the realized Particular ; they constantly tend to a movement out of themselves, to "extraneousness," dissolution and dispersion into infinitude. The *lunar* bodies are the representatives of abstract *being pro se* ; they are to the individual planets what the comets are to the material Universal.

In mechanics the *substance* of matter, gravity, unfolds itself to the totality of its form ; we have the ideal determinations of time, space, and motion, and the material centre without the mass. The syllogistic form is thus completely materialized, and, conversely, the material is completely *formed*. We come, then, now to the theory of qualified, formalized matter, — *physics*. The spatial universality of matter has been reduced to spatial centrality or unity ; the first negation of being for others (external being, complete exterioration) has taken place, and being *pro se* is *ideally* stated. But *really* the being *pro se* can proceed solely from a negation of this negation, — of the determination in space ; it is the total development of all the determinations.

B. — P H Y S I C S.

As soon as matter has severed itself from the laws of mere gravity, it becomes self-determining, and shapes it-

self out in space, according to its immanent form ; it becomes *individual*, — attains to its being pro se. The bodies are now subjected to the sway of a distinct point of unity, which, as Hegel expresses it, *digests* them. — The subjects considered in physics are

1. *Individuality in general*, — the immediate, free physical qualities ;
 2. *Particular individuality*, — the relation of form, of physical determination, to gravity, and the consequent influence upon gravity ;
 3. *Free, total individuality*.
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I. PHYSICS OF INDIVIDUALITY IN GENERAL.

THE physical qualities, as immediate, are, first, external to each other *in the form of the physically determined celestial bodies* ; secondly, they are referred to the individual unity, in their totality, — *the physical elements* ; thirdly, they appear as the process evolving the individual product, — *the meteorological process*.

A. — THE FREE PHYSICAL BODIES.

1. *Light and its Physical Reality, — the Solar Centre.*

THE first form of qualified matter is matter as pure identity with itself, or as the unity of reflection in itself, — therefore the first barely abstract manifestation. In the form of an existence in nature it is relation to itself as independent of the other determinations of totality. This existing general “self” of matter is *light* ; as an individuality it is the *star*, and as a momentum of the totality the *sun*.

Matter generally is free independent motion in its reversion to itself, — simple, solid, thorough self-equality. In it the universal cosmic life concludes its ideal life ; but its actual existence involves the momentum of *being for others*, of exterioration, and thus this immediate material totality becomes affected with the antithesis between its intensive *being* and its outward *existence*. Matter as this restlessness of vertiginous, self-relating motion, as this intensive being *opposed* to outward existence, is *light*. “ Light is the self-inclosed totality of matter as pure force, as the intensive life sustaining itself in its own bosom, whose whirl consists in this immediate opposition in the directions of self-relating motion, in whose influx and efflux all difference is annulled, — *the absolute line*. It is the pure existing force of spatial repletion ; its being is absolute velocity, present, pure materiality, real existence in itself, or reality as a transparent possibility.” Light is present in space without filling it, for it is not exclusive. “ Space is merely abstract consistency ; light, on the contrary, is the intensive force of universal actuality, in virtue of which it has outward existence.”

Matter in the capacity of light is its own positive manifestation. In entering into being for others (exteriorly existing, repulsive matter) and manifesting itself, gravitating matter begins to manifest itself likewise ; but this manifestation of gravitating matter, pressure or appetite of unity, is negative and externally inimical ; matter is for the “ without ” in repelling and excluding this “ without.” But under the influence of light the manifestation becomes affirmative, and establishes connection and universality instead of separation.

As first determined, this luminar manifestation is merely the general vague manifestation in itself. The only determination is the want of all determination, — identity, reflection in itself, perfect physical ideality in contradis-

inction to the reality of heavy matter, taken under the aspect of the Exclusive, Different. This material identity stands as yet without antithesis ; it is oscillation, but internal oscillation. It is pure reflection in itself, — an analogon of the “ I ” in the higher form of the mind. The “ I ” is the infinite space, the infinite equality of consciousness with itself, the abstraction of pure self-certainty, — of the pure identity of myself with myself ; it is simply the identity of my relation as subject to myself as object. Of this light is a perfect image ; it is not a “ subject,” because it does not dim and refract itself, because it is only abstract appearance. — If the “ I ” could maintain itself, according to the endeavour of the Hindoos, in perfect, composed equality, it would vanish, — become *light*, — abstract transparency. But the “ I ” is more ; it is, like light, the pure self-manifestation, but at the same time the infinite negativity of the return to itself in the capacity of subject from itself in the capacity of object, and therefore the infinite point of subjective individuality excluding the “ without.” Light is not self-consciousness, because it is devoid of the infinitude of the return to itself ; it is pure manifestation, but not *for itself*, — only for the “ without,” for the “ alterum.” It is destitute of the *concrete* unity which belongs to the mind, and is therefore a material, not a spiritual manifestation. It is consequently, moreover, spatial, — absolute expansion in space, and not the return of this expansion to the unital point of infinite subjectivity. Light is infinite spatial dispersion, or rather, infinite generation of space. — Light meets with its limit in concrete matter, which, however, does not properly *resist* it, because light is not susceptible of resistance. Being abstract identity, light is without internal difference ; the sphere of difference lies in other physically determined bodies. But it is *abstract* identity, and consequently a manifestation,

which as such craves an object in which to verify itself. Light in itself is invisible ; in pure light nothing is seen, any more than in pure darkness. The limit only brings negation and hence determination ; with it reality begins. In distinguishing itself from darkness, light first becomes visible.

This is the idea of light and of its existence for external objects ; but what is it in reality ? What is its station among those objects themselves ? Light can be called matter only inasmuch as it exists independently for itself in the form of the Individual, as it possesses a distinct corporality. — Light constitutes the physical significance of the body of abstract centrality, the self-luminous body, the sun. This body is the primitive, unengendered light, which is immediate and does not proceed from the conditions of finite existence. The stars are self-luminous bodies, whose existence is merely the physical abstraction of light ; their punctuality is the poverty of the merely Abstract. — The sun is untenanted ; the concrete planets only can produce concrete forms. — To ask for a source of solar light, and for its maintenance by a continued combustion, for instance, is a misconception ; the conditions of terrestrial processes are of no application as yet in the sphere of free qualities. The heat of the solar light takes its origin at the moment of its union with the planet ; *in itself* light is absolutely cold.

Light, being the abstract “self” of matter, is absolutely without gravity ; being *material*, it is boundless exterioration ; but as pure manifestation, as material ideality, it is inseparable and simple exterioration.

The realistic assertion, that in nature there is no ideality, is to be rebutted by a reference to light, which is nothing more than pure manifestation. Light is not separable into masses, for it is not quantitative ; its limitation does not interrupt its internal continuity. The jargon

of pencils and rays and particles is without meaning. Light can neither be transported in bags nor bound in sheaves. The inseparability of light in its infinite expansion, a physical existence "out of itself" which remains identical with itself, cannot be decried by the understanding as unintelligible, since this identity is its own fundamental principle.

Light as the animating, individualizing principle appears, in the return from the particularization of matter, as the negative unity of the Particular. Gravity, acidity, sound, &c., are manifestations of matter likewise; not, however, pure manifestations, like light, but determinate modifications in themselves. We hear a tone of higher or lower pitch, taste such an acid, &c., but we cannot hear sound or taste acidity as such. Light exists as the abstract universality without particularization. Light is incorporeal, immaterial materiality; it cannot be weighed.

Light has been one of the first objects of veneration, for it contains the momentum of unity with itself, and all difference and contention vanish in it.

The corpuscular as well as undulatory theory of light is gross; the propagation of light in time is simply due to its action in material media, by which motion is induced, and thereby succession, and consequently time. The reasoning as to stellar distances, based upon the observation of the progress of light through material media, is consequently purely hypothetical.

In the capacity of universal physical identity, light is antithetical to matter otherwise qualified and differentiated; the latter therefore stands opposed to light as darkness. This matter, existing only as the absolutely different from light, is related to it superficially merely; if the material surface be without particularization, i. e. smooth, light manifests itself there without interruption, i. e. it appears *at* its alterum, its dark counterpart, — the

Dark appears at the Luminous, and conversely ; the effect is no other than the infinite self-reflection of both. The manifestation of definite forms, particularization (rough projections, &c.), is required.

The mutual manifestation of objects is *spatial relation*, which is determined by naught besides, and therefore rectilinear, *direct*. The related objects being surfaces, which assume different positions with respect to each other, the manifestation of one visible object at another polished one can transfer itself to a third ; the image is reflected to another surface, — a mirror, the eye, &c. The only law here, the determination being throughout the same, can be that of equality, — the equality of the angle of incidence to that of reflection.

Objects are luminous, i. e. visible ; they are for other objects, exist at them as visible, and this is the reflection of light. When the sun shines, *it is at* the illumined object ; the surface in its whole extension becomes a surface of sun. It becomes, therefore, reflectively luminous ; it stands in the relation of sun, and consequently exists for the without. If now this surface contain spatial differentiation, be rough, &c., a definite thing is seen ; if not, — if the surface be perfectly smooth, no visible difference is appreciable, and nothing is seen, but the simple manifestation, the being for others as such, — perfect reflection takes place.

Light is efficient identity, but *abstract*, not real identity ; things, in becoming luminous, state themselves at other things, and thus their abstract identity, their luminarity, is extrinsic to them. But light is to fill and realize itself ; matter must attain to identity in concrete form. Consequently light must differentiate itself, enter into antithesis with an outward material. This antithetical momentum has in general been termed darkness, absolute shadow ; but it is now to be considered in its physical determinations.

2. *The Bodies of Antithesis, — Moon and Comets.*

The absolute shadow, as the negation of light, is the antithesis of the abstract identity of light, an existing, real antithesis. It is essentially a contrast, a duality, 1st, of materially different exclusive rigidity, and, 2d, of opposition as such, which, not being sustained by individuality, only collapses in itself, — exists as dissolution and neutrality. The former momentum is the *lunar*, the latter momentum the *cometary* body. Both, as relatively central bodies, have the peculiarity of not rotating on their axes (?). The lunar representative of rigidity, being independent existence engaged in opposition without individuality, is necessarily subordinate, and the satellite of another body which contains its axis; the cometary body, the counterpart of rigidity, is, on the contrary, vagrant, and exhibits accidentality in its eccentric orbital revolution, as well as in its physical existence.

The moon is without atmosphere, without organic formative processes, — a material crystallization; the comet is a formal process, a varying vaporous mass. Both are equally impotent, the Rigid as well as the essentially Diffuse.

3. *The Bodies of Individuality, — Planets.*

The re-identification of the antithesis is the earth, or the planet generally, the body of individual totality, in which, on the one hand, the rigidity is resolved by the separation into real differences, and the antithetical solution is restrained, on the other, by the individual point of unity. The planet represents concrete subjectivity, in which the differences are merely ideal momenta, and which is the bearer of life. It is the function of the earth, and of the Organic universally, to “digest” the astral powers, which as celestial bodies have the appear-

ance of independent existence, and reduce them to the sway of individuality. These bodies, as they are for the planet, or the incorporated influence of these bodies, — in other words, the determinations of elementary totality, — now, then, become momenta of the individual planet, — the *elements*.

B. — THE ELEMENTS.

THE recent assumption of chemical simplicity for the definition of a physical element is entirely arbitrary ; the true physical element is independent of chemical abstractions. The elements are the cosmical activities in their planetary reality. Light, the statement of the Identical, not only illumines the Dark, but enters into real efficacy there. The particularized bodies not only light *upon*, but also *into*, each other, and effect a mutual idealization and identification. Light kindles, incites, and presides over the process of the elements. General individuality, without reflection into itself, still finds its subjectivity, its infinite self-relation without ; and this is light, the vivifying and animating principle.

The elements, corresponding to the celestial bodies, are four : *air*, corresponding to light, or light stated as passive, momental ; *fire* and *water*, the elements of antithesis, — the former the lunar element, as rigidity entering into active relationship with individuality, a restless incessant process of being pro se, liberated negativity, — the latter the cometary element ; finally, the element of individuality, *earth*.

The elements are general existences in nature, which are no longer independent, and still without individualization. In the chemical point of view, elements are the general components of all bodies, these being taken as

materially compound, and in this sense the old Empedoclean elements are repudiated. Here the individuality of the bodies is postulated ; there the individuality is severed, and the independence of the constituent elements vindicated. It is forgotten, that as independent these momenta are essentially, specifically distinct from their existence as momenta of a higher individuality. — The physical elements, being as yet destitute of individualization, do, indeed, discede into abstract chemical determinations : air into nitrogen and oxygen, water into hydrogen and oxygen, &c., — fire, however, excepted, since it is the process itself whose fundamental matter is only the material *light*.

1. *Air*.

The element of undifferentiated simplicity is now no longer positive identity with itself, or self-manifestation, light as such, but merely negative universality, degraded to a momentum of individuality, and therefore also affected with gravity. As negative universality it is the unsuspected, but insinuating and consuming, power over the Organic and Individual, — a fluid passive with respect to light (transparent), but vaporizing whatever is individual, penetrating everywhere, — *air*.

Air is the Universal brought into relation with subjectivity as a subjected, relative momentum. Furthermore, as distinguished from light, air is the absolutely Active with respect to the Individual, *efficient identity*. Its inherent tendency is to effect a real identification of the materially Different, of the Particularized, by dissolving, universalizing it, since it is nothing more itself than the real Universal. Air is thus the absolutely Corrosive, the enemy of the Individual. — The air produces odor, odor being nothing more than the continued process of the Individual with air. Even organic products are engaged in

this aerial strife ; the function of organic life is its unceasing regeneration by the process of its self-destruction. Wherever the force of re-individualization is wanting, the result is decay, universalization, brought about by the action of the air. An exclusion of air prevents decay.

Hegel protests against the supposition, as he terms it, of chemists, that the vaporized bodies continue to exist with their distinct, individual properties in the atmosphere. He advocates the theory of a complete reduction to material universality, — not a transformation of one individual body into another, but a return of the Specific to the General.

Air resists only as a mass, not individually, and is thus indifferent as to the space it occupies. It is spatial, but not atomistical ; it is an exterioration, an *existence out of itself*, but not an *individual* exterioration. Air is compressible ; and continued compression, a reduction to a point, as it were, produces *fire*. Here the nature of air is exhibited ; it is universal being pro se ; by this reduction it becomes *stated* being pro se, active, consuming universality. Such is the absolute origin of fire : the indifferent subsistence of universality is annulled, and it becomes a self-relative *process*, instead of a self-relative *existence*. The air is *sleeping fire*.

2. *The Elements of Antithesis, — Fire and Water.*

Fire is the element of being pro se, but not as indifferent and rigid, but as a momentum of individuality, as its restless process. Air proves to be ideally fire ; in compression it *states* itself as such, as negative universality, or as self-relating negativity. Fire is materialized time, — the absolutely Restless and Consuming, the simultaneous consumption of an object and of itself. Air is the negativity of the Particular, but it does not appear as such, because it is yet stated in the form of

undifferentiated equality ; as isolated, individual, distinct from other modes of existence, it is *fire*. It not only deprives matter of its qualitative specification, making it colorless, tasteless, &c., but it consumes the Particular, as matter, altogether. Heat is simply the appearance of this consumption in the individual body, and thus identical with fire.

Fire consumes either the Concrete or the Antithetical. In the former case, it reduces the Concrete to antithesis, oxidizes it, and makes it, e. g., alkaline. In the latter case, it reduces to indifference, neutrality, as in the production of water by the combustion of hydrogen.

The other element is the converse of this : the element of neutrality, of reconciled antithesis, without individual being *pro se*, without rigidity and determination, without process, — *water*. It is *passive* being for others (*pro altero*), whilst fire is *active* being for others. Having no point of gravity in itself, it is subject to the sway of gravity. In water all shape vanishes and all mechanical relations are annulled. Its almost complete want of compressibility is a consequence of the same neutral existence.

Resuming : *air* is the ideality of every thing without it, — the Universal as related to all other materialities, by which every thing particular is effaced ; *fire* is the same universality, but as phenomenal, appearing, and therefore, in the form of being *pro se*, *existing* ideality, the existing nature of air ; *water* is passive neutrality.

3. *Element of Individuality.*

The element of actual differentiation is at first earth, the solid in general ; but as the totality which retains the differences in their individual unity it is the power of individuality, which incites them to, and maintains them in, their process.

C. — THE ELEMENTARY PROCESS.

THE coarctation of the elements and of their differences against each other as well as against their unity, by the individual identity, is a dialectical process, which constitutes the physical life of the earth: *the meteorological process*. In this the elements as momenta subsist only in so far as they are there generated, stated as existing, after having been developed as momenta of the idea.

The categories of preëxisting, particularized bodies do not obtain in the sphere of generation from the Universal, just as finite relations are irrelevant in their application to the Infinite. Thus the conception of a substantial, unchangeable difference of the elements is destructive of all philosophical reasoning. Empiricism is supercilious, whenever essential transformations present themselves, such as the crystallization and solidification of water, disappearance of caloric, &c., and shields itself by the saving clauses of hypotheses, such as those of free and latent heat, division of matter into ponderable and imponderable, &c.

Physical elements and individual bodies are not to be confounded; the former are abstract materialities without subjectivity, and therefore to be considered in a different light from the latter. The great requisite is, always to consider the Material in the light of its peculiar sphere. To apply the laws of inorganic chemistry, for instance, unreservedly to organic bodies, leads to the most erroneous views. So air and water exhibit entirely different relations in their general physical connection, from what they do in their particular bearing to individual bodies, where they are subjected to quite another sphere. It is a *μετάβασις εἰς ἄλλο γένος*.

The transformation of elements into each other is the domain of the physical process, which is altogether foreign to finite physics, where the individual elements are retained in their abstract duration, and only compounded and separated. The elementary process is the conflict of water, earth, fire, and air, — water being the “*materiel*” and acting the principal part, inasmuch as it is the neutral element susceptible of all transformation. Air is active as the secretly consuming, idealizing element; fire being the appearance of being *pro se*, phenomenal ideality, the manifestation of progressive consumption. Water is simply changed into air, disappears and reappears. An instance of the latter is the formation of rain. The common theory of this shows itself as an absurdity, since the atmosphere, when *charged* with aqueous vapor (in the ordinary view), is *lighter* than without it, and since, according to Deluc, the air on the highest Alps often proves perfectly dry immediately before the formation of clouds.

The activity of light incessantly *kindles*, and then, according to the relative position of sun and earth, particularizes the terrestrial process, for light is the earth’s universal self. One momentum of this process is the diremption of individual identity, the statement of the terms of individual antithesis, therefore of rigidity, on the one hand, and of neutrality (in which the earth tends to its solution), on the other. The earth is differentiated in itself, and an oppositional tension between the Lunar and Cometary results. But in the other momentum the attempted antithetical subsistence consumes, destroys itself, kindles, and the essential union of the terms is reestablished. Thus the earth becomes a real and fertile individuality. — The annulled tension, in rain, is the reduction of the terrestrial element to neutrality, — its lapse into resistless indifference. But the contrary principle, the form-destroying tension, likewise proceeds to origi-

nation, to being *pro se*. These two extremes—thorough neutrality and absolute opposition—collapse at the height of this tension, and the resulting unity is the unsubstantial, aerial fire, — *lightning*.

In the earth itself this momentum of self-consumption can be pointed out ; the earth enters into antithetical tension and transforms itself into igneous vitality, in volcanoes,—and to aqueous neutrality, in fountains. Volcanoes are, as it were, a subterraneous thunderstorm ; that they cannot be accounted for by mere mechanical explanation, such as a local accumulation of gases, &c., but that they belong to the life in the totality of the earth, is perceived in this, that birds and other animals have a presentiment of volcanic eruptions, earthquakes, &c., several days before their occurrence, just as we anticipate an impending thunderstorm. The aurora borealis, meteoric fires, falling stones, &c., are isolated forms of the same process.

When the earth has thus become, not only the exposition, but the physical reality, of all the momenta in the idea of gravity, it is the abstract ground for individuality ; in its process it states itself as the negative unity of the naturally extrinsic, abstract elements, and therefore as a real individuality.

II. PHYSICS OF PARTICULAR INDIVIDUALITY.

THE subjection of the previously elementary determinations to individual unity is now the immanent form which determines matter *against* its gravity. Gravity is merely the *tendency* to centralization, without prejudice to the exterioration of matter ; quantitative space is the measure of its differential particularization, of the gravitating masses. The determinations of the physical ele-

ments are not as yet a *concrete* being pro se, and not therefore opposed to the sought-for *abstract* being pro se of the gravitating Material. Now, however, with its *stated* individuality, matter is a centralization against its exterior existence, an immanent determination of spatial materiality different from that of gravity and its direction. In gravity the unital centre is distinct from the material parts ; the *individual* centre, on the contrary, pervades the whole Material as the soul of the latter, so that this Material is no longer out of its centre, but carries it within itself (and is carried by it) as its light and "self." — This individualizing determination of form is first *immediate*, not stated as a totality ; the momenta of the form exist indifferently out of each other, and the formal relation is simply a *ratio*, a relation of the Different. It is corporality in finite determinations, where it is conditioned by the "without," and discedes into many particular bodies, the difference appearing partly in their *comparison*, partly in their strict relation.

The first determination of gravity in the Individual is mere abstract, simple, quantitative relation, — *specific gravity* ; next, the specific mode in which the parts are related, — *cohesion* ; thirdly, this relation of the material parts *isolated*, taken by itself, on the one hand, as the ideal annulment, *sound*, — and, on the other, as the *real* annulment of cohesion, *heat*.

A. — SPECIFIC GRAVITY.

IN the relation of the gravity of the mass to its volume, in *specific gravity*, — the first abstract specification of matter, — this matter frees itself in the first instance as self-existing from its relation to the central body, ceases to be a uniform repletion of space, and opposes a specific being

in itself to the abstract, exteriorated, spatial existence. — Of course, the old theories of pores, compression, &c., are gratuitous and unphilosophical. — Hitherto space and gravity were yet inseparable ; the difference of bodies consisted only in their mass, and the space occupied was the only criterion of material quantity. We have now a different criterion ; the same space may include different weights, or the same weight occupy different spaces. This immanent relation, which constitutes the individual nature of matter, is specific gravity, — being by and for itself, which is indifferent to mass. The Qualitative here substitutes itself for the merely Quantitative, for matter is now not *externally* only, but *internally* determined. Every part, however small, of gold, e. g., is 19 times as heavy as water ; the specific gravity is thus a pervading quality of the body. — The earth, as a planet, is of a definite specific gravity ; this is the first manifestation of its individuality. The variations in the barometrical pressure of the atmosphere are referable to telluric attraction, and depend upon a variation in the earth's specific gravity, as Goethe had already indicated.

The simple determination of matter in its specific density leads, furthermore, since matter remains in the form of exterioration, to a specific mode of the spatial relation of the component material, — *cohesion*.

B. — COHESION.

A SPATIAL relation differing from that given by gravity is stated by *cohesion*. The materially Different is presupposed by it ; first, it is the quite indeterminate coherence with the quantitatively Different, — *adhesion* ; next, it is the inner cohesion of matter with itself, on the one hand, as the merely quantitative cohesion, the

strength of resistance against mechanical separation, and, on the other, as qualitative cohesion, its maintenance even in the forcible relaxation of its bonds. In the latter capacity it manifests itself as *punctual*, *linear*, or *superficial* cohesion (ductility, malleability, &c.). This forcible relaxation is induced by the stress of another extraneous body ; but the cohesive individuality necessarily restores itself from this negative violence ; the body is *elastic*. Elasticity is cohesion externally exhibited in motion ; internally, it is a change of specific gravity, which reestablishes itself. In this, first, the exterior, severed existence of matter is annulled ; then this *negation* is annulled, — and the one ideality as the change of determinations mutually annulling each other, the continued oscillation of the momenta of elasticity, is *sound*.

C. — SOUND.

IN sound the specific determination belonging to a body in virtue of its specific gravity and cohesion, the internal form merged in the materially multiple existence, is liberated by the negation of its substantial multiplicity. Sound is a transition of material spatiality into material temporality. The multiplicity is annulled, and this annulment is again annulled ; there is alternately a negation and a negation of this negation, an oscillation between the subsistence and annihilation of specific gravity and cohesion, in which the ideality of the Material becomes phenomenal.

The laws of sound belong to special physics ; Hegel treats of them more at large, but I am bound here to forego technicalities. The laws of corporality manifest themselves in sound ; we feel that with the tone of a body we enter into a higher sphere. The tone moves

our inmost soul, because it is itself the Internal, Subjective. Sound is the "self" of individuality, which manifests itself as one with the Material, as restraining it in quiet permanence. In order that a tone be elicited, concrete individuality is therefore an essential requisite. Water, air, &c., are therefore incapable of producing a distinct tone.

In sound, the specific multiple existence of the material parts and their negation alternate with each other, and the ideality of the Specific appears only in the abstract. But this alternation is therewith an immediate annulment of material specific subsistence, and thus the annulment is *real* identity of specific gravity and cohesion, — *heat*.

Sounding bodies, or bodies subjected to mechanical violence, such as friction, &c., exhibit the ideal origination of heat with and after sound. Sound is the reciprocating action of cohesion, and thus the incipient annulment of its rigidity, — *heat*.

D. — HEAT.

HEAT is the restoration of matter to its amorphous state, to its liquidity, — the triumph of its abstract homogeneity over its specific determinations, the active position of its abstract continuity. Formally, therefore, heat appears as expanding, all specific limitation in space being destroyed. There is question here, not of the mere *quantitative*, but of the internal *qualitative* cohesion of bodies. Cohesion and rigidity are overpowered, the consistency of the parts is idealized, the body is fluidified. Heat reduces the body to unity, but to the unity of indetermination. — After this internal fluidification of the body, the struggle between individual consistency and

universal, indifferent continuity, — sound, — is of course impossible. The repulsion of an extraneous power and the inner surrender to it — sound and heat — are thus opposed ; but they also encroach upon each other's sphere. Even in organic bodies this is still indicated in the organic forms, where, on the one hand, the individual “ self ” introverts itself, and, on the other, appears externally. In plants and flowers we find the inner “ self ” elicited and externally exposed by the influence of heat and light in the play of colors ; animals are generally of more subdued hues. Again : the birds of tropical climes glory in the most multicolored plumage, and are destitute of richness and modulation of voice ; those of northern regions are inferior in colors, but possess the charms of song. Here the introversion of individuality, in song, stands as a substitute for its gaudy exposure in colors.

As the real negation of the peculiar individuality of bodies brings them to the state where they exist, not for themselves, but in communion with other bodies, heat is conducted, imparted to them. The conduction, communication, impartation of heat is natural to the state of sounding or heated bodies, for this state is essentially a connection with, and a dependence upon, the environment.

The assumption of a caloric matter and of an imponderable material sound is the misconceived notion, that whatever has an effect upon sensation must be material. That an imponderable atomic matter is an absurdity is evident enough from the preceding explanations. Thus the theory of *latent* (absorbed or disguised) and sensible heat is an unmeaning fiction. — Heat is conducted through different bodies only by the abstract continuance of the above solvent determination through matter, and thus heat is capable, not of qualitative dimensions within itself, but only of the abstract antithesis of position and negation, of

quantity and degree, — exists therefore as an equable temperature, through which the intensive degree is distributed. Since, however, heat is a change of specific gravity and cohesion, it is likewise bound by these determinations, and the external imparted temperature is conditioned in its determinate existence by the particular specific gravity and cohesion of the body to which the impartation takes place. Hence the *specific capacity* for heat. It is the capacity, which, under the view of a caloric matter, has given origin to the hypothesis of latent caloric, &c., which is altogether unwarranted by experiment, and presupposes an isolated, material, independent subsistence of heat.

It is empirically substantiated, that the change of specific gravity and of cohesion becomes phenomenal as heat. Heat appears and disappears in fermentations, chemical processes, crystallizations, solutions, is generated by friction, concussion, &c. In the form of temperature, heat is the conditioned, incomplete solution of matter, while in higher intensation, in the form of flame, it is the complete triumph of pure ideality over the multiple, exteriorated existence of matter. Thus the development of the real, formalized matter effects its transition through this totality into the pure ideality of its determinations, into the abstract identity of its "self," which, in this sphere of external individuality, becomes external itself, — *flame*.

This whole sphere is conditioned in this, that the form is at first only *ideally* a specification of gravitating matter and an individual totality. Heat states the momentum of the real solution of the Immediate, and of the primary indifference of specified materials to each other, and thus the form is immanent as a totality in the resistless Material. "Selfness," the infinite self-relating form, has attained to existence, maintains itself in the subjected

exterioration, and is now the totality which freely determines the Material, — *free individuality*. The concentration of form in itself, the soul which escapes as sound and the liquidity of matter, are the two momenta of free individuality. The form is developed in itself and determines the Material as its absolute centrality. — Individuality as impulse first states its momenta in different figurations, in the differentiations of material coherence.

III. PHYSICS OF TOTAL INDIVIDUALITY.

WHEN the idea of matter has been stated as totality, the centre of gravitation is no longer the subjectivity *sought* by matter, but immanent there as the ideality of the immediate and conditioned formal determinations, which now appear as momenta developed from within. Material individuality, thus identical with itself in its development, is infinitely *pro se*, but at the same time conditioned, and on that account includes necessary relation to the without ; in the processual ideality, in life, this conditionality is stated as annulling itself.

The idea of total individuality is, first, immediate *shape* as such, and its abstract principle appearing in free existence, — *magnetism* ; it, secondly, determines itself as difference in the separate forms of corporeal totality, which individual particularization on the height of its tension is *electricity* ; the reality of this separate particularization is, thirdly, the chemically different body and its relation : the individuality, whose momenta are bodies, and which *realizes* itself as totality, — the *chemical process*.

A. — SHAPE.

IMMEDIATELY the body in the form of total individuality is *quiescent* totality, and consequently the form of spatial coexistence in the Material. The shape is thus the material mechanism of individuality unconditionally and freely determined; the body whose specific mode of internal coherence as well as external configuration is determined by the immanent and developed activity of form. Thus the form manifests itself freely, and no longer exhibits itself as the peculiar resistance against inimical forces. It is the silent geometer in the interior of the body, which, independently of external impulse, organizes it without and within. Crystals are without mechanical composition, but formed by an inner mechanism, by *transfigured mechanism* in the higher sphere of individuality. Crystalline concretions are thus withdrawn from the action of gravity. — Still, this internal individuality is not as yet the soul of a distinct life, because it simply *is*, — is not as a process, is not its own object, is not free. The spatial determinations of form are only such as correspond to the laws of the understanding, by which quiescent, rigid identity is established and demanded. The crystalline form is a mute life, active in an apparently mechanical, merely externally determinable body, as an organizing tendency. It is here the regularity of the whole, in which all the parts constitute the peculiar form; whereas in the organic region the form is such, that it traces itself entirely out in every part, — that the parts, therefore, are more than absolutely complementary, and unintelligible in their mere connection with the whole. In the living organism, every part of the body is the whole, as we perceive in sensation. For this reason the shape of the Organic does not depend upon straight lines and planes, but upon curves.

The special determinations of shape are again threefold : first, the *abstractions* of shape, — really the *Shapeless* ; secondly, the *energy* of shape, shape in its process of origination, — *magnetism* ; thirdly, shape in its *reality*, — the *crystal*. — Shape as immediate, as internally devoid of form, is, on the one hand, the extreme of punctuality, — *brittleness* ; and, on the other, that of spheroidal fluidity, — *external, without internal, figuration*. Next, this punctuality differentiates itself, becomes *linear*, and the form states itself antithetically in extremes, which have no independent subsistence, but are maintained only by their relation, which, as phenomenal, is their neutral middle point, the point of indifference in the antithesis. This conclusion of the extremes constitutes the principle of formalization in its developed determination, — *magnetism*. Magnetism represents the nature of the idea in a simple and naïve manner, and is, as it were, an exposed syllogism. The poles are the real extremes of a real line ; but as *poles* they have no real independent existence, — they are absolutely inseparable. The point of indifference constitutes the unity upon which their significance and existence are based ; polarity is the absolute relation of such mere momenta. — It is true, but only in a certain sense, that all bodies are magnetic ; the *real* shape, which originally is punctuality, ideally contains this principle of differentiation, but it is not brought to light in all bodies.

The earth is internally the struggle for crystalline formalization, and thus the terrestrial magnetism becomes free, because the earth does not actually attain to the crystalline form, but remains engaged in the longing for formalization. The earth is, as it were, a living magnet, whose poles are not fixed ; hence the oscillation, the imperfect coincidence of the magnetic with the meridional direction, &c. The disappearance of magnetism in iron

and the analogous bodies in consequence of the application of heat, and its impartation by mechanical agencies, such as concussion, are easily understood from the above. The cohesive vibration of a bar violently struck, e. g., produces an internal tension, and awakens the impulse to crystalline formalization.

Magnetism exists as the abstract, formal identity of real differences, without having been paralyzed in the total shape as in its product; it is therefore *activity*, — the immanent activity of free mechanism in the sphere of shape, determining the spatial relations. — Respecting the identity of magnetism, electricity, and chemism, it is to be observed, that the antithesis of form in the individual material proceeds to determine itself as the more real, — the *electrical*, — and then as the still more real, — the *chemical opposition*. The same general totality of form is the foundation of all three. But as phenomenal, as appearing in actuality, they are to be distinguished in spite of their higher identity. They are internally connected, but not the *same*.

The magnetic activity of form is that of the idea generally: to differentiate the Unital, and to reunite the Different. Hence the repulsion of poles of the same name, and the attraction of poles of different names.

Merged in its product, the magnetic activity is real shape, — the *crystal*. In this totality the different magnetic poles are reduced to neutrality; the abstract linearity is realized as the surface of the whole body, amplifying the brittle punctuality to its developed form, and, conversely, limiting the formal expansion of the sphere to a definite figure. The individual crystal is magnetism realized, the totality in which the activity is extinct, and the antithetical extremes are neutralized to indifference. All shaped realities are internally magnetic, — affected by this speechless stir of nature, which exposes its dimen-

sions out of time. The tendency of magnetism being satisfied in the crystal, the magnetism as such is no longer manifest.

B. — THE PARTICULARIZATION OF THE INDIVIDUAL BODY.

THE formalization of the individual body having been achieved, the *physical differentiation* is the next stage. The different physical determinations are to be *stated*, — the physical totality of form must become the totality-in the process of its particularizations, of the constituent *elements*, whose logical definitions have been given. In the crystal the form has been stated *spatially* only, and the specification of physical differences is still wanting. — The individual terrestrial body is the unity of air, light, fire, and water. Air corresponds to light; and light individualized, specifically dimmed, modified in the corporeal darkness, is *color*. Fire, the inflammation of the body, is the body's *smell*, — its constant unsuspected consumption. Water, as the individualized neutrality, — in the form of salts, acids, &c., — is the *taste* of the body. All these qualities are without independent existence, but presuppose a material substratum, of which they are manifestations.

Systematically we have, first, the relation of the individual body to light, — *color*; secondly, the relation of difference (the antithetical terms) as such, — *smell* and *taste*; and thirdly, the difference of the bodies in their totality, — *electricity*.

1. *Relation to Light.*

In formalized individuality, the first determination is its identity as a whole, its “selfness,” the abstract manifestation of itself as simple, indeterminate identity, — *light*.

But the shape as such is not luminous, but merely a *relation* to light. — In the first place, the body as a pure crystal is a medium for light in the homogeneity of its neutrally existing, internal individualization ; it is *transparent*. Here the form of individuality is perfectly quiescent, completely determined and compenetrated by matter, which it entirely sways. The next determination is the comparison of two transparent media, and the third and last, color as a quality.

Absence of transparency, opacity, darkness, belongs to the abstractly individual Material, in which the pure form has not as yet subjected the brittle, disguised being pro se of individual matter ; this subjection having been accomplished, the neutrality and uniformity, which occur in an inferior sphere in air, water, and fire, and the relation to light, — *transparency*, — are restored. The form in its free and unlimited dominion over the whole and its parts is transparency. All the individual parts in this whole are perfectly equalized, and without “severalty” in their mechanical penetration. The abstract identity of the crystal, its thorough mechanical unity as indifference and chemical neutrality, constitutes the crystalline transparency. The primitive crystal of the earth is the diamond, in which every eye delights, recognizing it as the first-born son of light and the earth.

The first and simplest peculiarity of a physical medium is its specific gravity, which peculiarity as such, as well as referred to transparency, becomes manifest only in the comparison of a *different* density in another medium. For clearness' sake, air and water may be selected as instances, of which we will suppose the former to be next to the eye. That peculiarity of the water, which is efficient, as to transparency, in the air, is its density, as qualitatively determining place. The volume of water with the image contained therein is therefore seen in the

transparent air, just as if the volume of air, *in which the water's density is now stated*, had the greater specific density of the water, and therefore were contracted into a smaller space. This is the phenomenon of *refraction*.

The prevalent theories of refraction are rejected by Hegel. He quotes against them the fact, that the plane bottom of a vessel filled with water is wholly and equably raised, and is of opinion that this fact militates against those theories. This I conceive to be unfounded, so far as the undulatory theory is concerned. However, my task here is, simply to expound Hegel's views. — According to Hegel, the fundamental principle here is, that an isolated medium is only *abstractly* transparent, and that simply the *relation* of two media of different specific densities is the efficient cause of every particularization of visibility. This relation can be efficient solely *by the ideal position of one medium as visual space in the other*; the air, in the above example, is thus in a manner infected by the modifications of the water as to density, so that it exhibits the visual space of the image according to this limitation. The water here is not only transparent, *but its peculiar nature is likewise visible*, determining the ideal relation of sight between the object and the eye. Ideally, then, the specific density of the water is transferred to the air, and this is ideally reduced in volume; the object appears *nearer* therefore, *higher*. The theory of refraction is thus entirely based upon the resulting elevation of the object, upon the apparent diminution of the distance between the object and the eye. The object being perpendicularly raised, and a straight line being then drawn from its place to the eye, the change of direction in the so-called visual ray follows. Hegel and his followers insist principally upon the fact, that, *although no deviation is observed in the ray of perpendicular incidence, the elevation of the object nevertheless occurs*. Whoever is

acquainted with the undulatory theory knows that this elevation results there, too, from the retardation in the progress of the waves.

A very obvious objection to this theory of Hegel is, that the refracting powers of the different media are not strictly proportional to their densities ; Hegel himself notices it, and remarks, that, besides those densities, the inflammability of the media is likewise to be taken into consideration.

The primarily *external* comparison and position in each other of different densities determining visibility, as they exist in *different* media, is *internal* in the nature of crystals. They are, first, transparent generally ; but they are affected, moreover, by the form of their inner individualization, by their crystalline form, which deviates from that of equable transparency. This crystalline form is likewise active as a spatially determining agent, and thence arises the phenomenon of *double refraction*. The rhomboidal form, e. g., thoroughly individualizes the crystalline body (causing a deviation from this complete cubical equability, — cubes and the derivative forms do not exhibit the phenomenon of double refraction) ; it is in a measure a *formal* force, which does not attain to its realization, and is thus ideally active in the determinations of space.

This immaterial force of the form, proceeding to internal existence, annuls the neutral nature of crystallization, and the result is the determination of immanent punctuality, brittleness, with *perfect*, but *formal*, transparency. This brittleness differs from *self-identical manifestation*, from light ; it is consequently an internal incipency of darkening, — not existing as darkness, but efficient as darkening ; and thus it produces the prismatic (entoptical) colors. This darkening does not remain a formal principle only, but proceeds to the abstract extreme of solidity,

to passive cohesion ("metallity"). Thus we have darkness and light stated in concrete unity, as the *phenomenal color*. Transparent matter is that which is homogeneous, neutral in its existence; dark matter, that which is internally individualized to being pro se, — which does not exist as punctuality, but only as a force antagonistical to light. "Metallity" is the material principle of all color.

Color is the individualization of light, — light *dimmed* by darkness. Darkness merely *mixed* with light gives an indeterminate *gray*; the dimming of light by darkness is not to be conceived in this sense. Color is such a combination of both (darkness and light), that they are stated in essential relation, — that they are distinct and yet one. Not darkness + light, but darkness : light.* The one is not supplanted by the other, but both remain.

The Newtonian theory, that light is composed of five or seven distinct colors, is thoroughly false; it is equivalent to the assertion, that light consists of seven dark principles, — as absurd as an alleged composition of a liquid of seven solids. The jargon of corpuscles with their alternate fits of transmission and reflection, of shaped rays (some have made rays quadrangular, to account for the phenomena of polarization), &c., is ridiculous.

Color is intermediate between light and darkness; it is

* Hegel's theory of colors agrees in the main with that of Goethe. Goethe says: —

"Einheit ew'gen Licht's zu spalten
Müssen wir für thöricht halten,
Wenn Euch Irrthum schon genügt.
Hell und Dunkel, Licht und Schatten,
Weiss man klüglich sie zu gatten
Ist das Farbenreich besiegt."

"To split the unity of eternal light we must consider as foolish, though you be content with error. *Brightness and darkness, light and shade*, — if you know how to ally these warily, the realm of colors is subjected."

the mediation of the two specified. Its appearance takes place wherever there is transparency through dimming media, of which the prism is an instance. — Hegel himself does not explicitly define the nature of dimming (*trüben*); from the tenor of his remarks, however, it follows, that he calls a medium “dimming,” when it has the effect of bringing darkness into *qualitative* relation to light. — When color realizes itself in a medium bounded by a figure, which presents its sides to light under varying angles, different degrees of lights and shades are produced, which, in encroaching upon each other, give the free (prismatic) colors. Shadows and lights from different sources, as, for instance, when a rod is held in the lights of a candle and of the sun, furnish analogous colored shades.

Whenever a light ground is seen through a dim medium, the result is *yellow*; when a dark ground appears through a transparent medium, the result is *blue*. The relation of shadow to yellow, or of light to blue, gives *red*. A mixture of these furnishes the remaining colors. The *epoptical* colors (colored rings) arise in consequence of a change of cohesion in the medium by pressure.

By means of light all bodies reveal their shape. Crystals are internally shaped; *they are therefore throughout the real possibility of being seen*. When, now, the body relinquishes this internal differentiation, and proceeds to the inner indifference of specific gravity, then this progress of visibility to darkness, the annulment of free, internal crystallization, constitutes the external color of bodies. Every determinate physical body is thus colored.

2. *The Difference in Particular Corporality.*

The principle of one term of the difference (the principle of being *pro se*) is *fire*; but not as the real chemical process, nor as mechanical brittleness, but combusti-

bility per se, which manifests itself externally as a relation to the existing negation in elementary universality, — to *air*. Thus it is specific individuality as the simple theoretical process, the invisible vaporization in air, — *smell*. Smell as an existing matter is *oil*, — that which is consumed as flame.

The other neutral principle of the difference individualizes itself as the determinate physical neutrality of the *salt*, and its momenta (acids, bases, &c.), and gives origin to the *taste* of bodies. This property remains at the same time the relation to the abstract neutrality of the solvent element, — water, — and, conversely, the abstract neutrality is separable from the physical components of the concrete, neutral body, as the *water of crystallization*.

Color, *smell*, and *taste* are the three determinations in the particularized individual body, whose *process* is to be pointed out in future.

3. *The Totality in Particular Individuality, — Electricity.*

In their determinate particularity bodies are related to the elements ; but as formalized totalities they are likewise related to each other as physical individualities. As *particular* bodies, they maintain themselves in their mutual independence ; but in their physical relation they exhibit the real “ self ” of that relation, a merely abstract reality, as their *light*, which is, however, differentiated in itself, — *electricity*.

Electricity is the abstract soul of the physically different terms ; in the electric spark the maintenance of physical totality becomes phenomenal. The physical unity and totality of the body presupposes a multiplicity of such bodies, as has been shown in Logic under the head, “ One and Many.” Although the many as immediate

are indifferent to each other, they nevertheless become different in the process of stating, asserting, their totality. In this relation of their statement, in which they mutually show themselves as individualities, they must still remain what they are, because they are individual totalities. On this account their relation is externally mechanical only ; the bodies come into contact, or rub against each other. By this mechanical contact the physical difference of one body is stated in the other ; now, inasmuch as the bodies at the same time remain independent, this difference becomes a tension, where the physical nature of the body does not appear in its concrete determination, but only as the reality of the abstract "self," as an antithetical light, in which the individuality manifests itself, and is forced into its process.

The attraction and repulsion in electricity are due to the general differentiating and identifying activities of the idea ; we have met with the same in magnetism.

It is to be well observed, that electricity is not an internal tension of bodies ; but it is the *external manifestation* of the physically different bodies, maintaining themselves as physical totalities in their antithesis. — The theories of electric matter — fluids, which are supposed to circulate in the pores of the bodies — are absurdities ; and the very common endeavour to make electricity the scapegoat of all physical changes is altogether gratuitous. Every thing is, indeed, electrical ; but it does not follow that electricity is the cause of all physical phenomena. Not a few bodies merely, such as glass, resinous bodies, &c., are electrical, but the "angry self" of all physical bodies appears as soon as they are mechanically irritated. In electricity, bodies compare themselves, as it were, and exhibit the proud courage of their individuality in electric light.

Electricity is the infinite form, which is different in

itself, and yet the unity of these differences ; thus the two bodies immediately cohere, like the north and south poles of a magnet. In the magnet, however, the antithesis is merely mechanical, and therefore exists with the bare efficiency of motion, — there is no object of sight, smell, taste, touch, &c. ; in electricity, on the contrary, the opposition is a physical one. In magnetism, but one body is requisite, which is as yet destitute of physical determination, the mere substratum of the magnetic activity. In the electrical process, each of the two bodies is endowed with a determination which results from the contrast with the other body ; but the individuality of the body remains distinct from this determination. The fundamental nature of electricity thus corresponds to that of magnetism ; but in electricity, the antithetical terms exist in different bodies, so that Schelling has called electricity a “disrupted magnetism.”

Electricity in itself presents only the abstract difference and the abstract activity of the different terms, from the tension of which the pure “self” proceeds as electric light, and their indifferent neutralization. The particular qualities of a body are merely the reality of its simple idea, the body of its soul. Thus the whole corporality will next enter this tension and its process, which at the same time represents the origination of the individual body. The individual shape, which at first only proceeded from the idea as such, will now state itself, moreover, as the *result* of the existing process, — the *chemical process*.

C. — THE CHEMICAL PROCESS.

In the developed totality of the individual body all the momenta are so determined, that they themselves are individual bodies, though they relate to each other only as

different momenta. This relation, as the identity of bodies which are not identical, is a contradiction, and thus essentially a process, whose ideal function it is to state the Different as identical, and the Identical as different by spiritualizing and separating it. — The chemical process is the first stage in the determination of shape. Shape as the identity of the idea and of reality is *magnetism*, — the abstract activity, the idea of shape. The particularization of shape in itself and against the “without” is electricity ; now the process of shape realizing itself is the *chemical process*, — the truth and ultimatum of this sphere. There is here, as in magnetism, a diremption of one form into its differences, which, nevertheless, exist as one ; but in magnetism the difference occurs in the same body, whereas in electricity and in this process each term of the difference exists in a separate body. The chemical process is the totality in the life of inorganic individuality ; the distinct bodies find their truth in their active relation to each other. They appear in their contrasts, as acids, alkalies, &c., and then by the activity of this relation state them in their identity, renounce their abstraction, and become new bodies.

Since the chemical process exhibits a totality, its idea will maintain itself in its differences, i. e. ideally each term is the whole process. The acid, when isolated, is not, indeed, the base, and conversely ; but the acid is the inherent thirst for the base, and thus ideally contains it.

The chemical process is at first formal, and effects a combination of the merely Different, — not of the Antithetical, so that there is but a *blending*, not a *change*, of properties. Instances are the amalgamation of metals, mixture of acids, of water and alcohol, &c. But the *real* process only refers to the true chemical difference, and includes the whole concrete totality of the body. Here a mediation is effected in a third body, distinct from

the two chemically different extremes, which is their abstract unity, as the result of the chemical process.

It has been repeatedly mentioned, that all the momenta of the idea exist in reality. The momenta of the idea of the chemical process, as really existing, are, 1st, the abstraction of indifference, — *nitrogen* ; 2d, the two terms of the antithesis, — (a.) *oxygen* and (b.) *hydrogen* ; 3d, the individual chemical element, — *carbon*.

The general nature of the chemical process as a totality is the twofold activity, first, of separation, and, secondly, of the reduction of the separate terms to unity. Now, since in the process the bodies are to enter into intimate relation, so as to bring their essential determinations into contact, which in the mechanically fixed state would be impossible, they must meet in the abstract principle of physical indifference, — in water as the principle of positive, and in air, the principle of negative neutrality. The elements, which constitute the medium, likewise enter the process, differentiate themselves, and, on the other hand, reduce themselves again to the formal physical elements. The extremes are united in a physical mean ; or if they be neutral principles, as, for instance, salts, they are decomposed into extremes. The real chemical process is syllogistic and embraces the momenta : two extremes, and a medium in which they meet. It is on this account, that concentrated acids scarcely act upon metals, but attack them violently, as soon as the medium — water — is added ; that pure water has no chemical, oxidizing effects on lead, e. g., unless air be present ; that air does not oxidize iron without the presence of moisture, &c.

The diremption of the physical elements into chemical extremes is not a mere detachment of parts previously distinct ; when water is decomposed, oxygen and hydrogen did not preëxist there as such, but water is *stated* in this difference by the chemical process. Although the

chemical process is the identification of the Different and the differentiation of the Identical, it is finite in this, that its momenta stand in the capacity of corporeal independence, — that it depends upon the præexistence of immediate corporalities, which are equally its products. Thus the bodies appear as extraneous to the process, which only accedes to them. On this account the momenta of the process become distinct, in its progress, as immediate and different, and the whole process appears as a circle of separate processes, of which the one presupposes the other, but takes its particular origin without, and extinguishes itself in its peculiar product, without continuing itself internally into the next momental process of the totality. In one of these momental processes the body occurs as a condition, and in the other as a product ; its chemical peculiarity is dependent upon its position in these separate processes. Universally the two momental processes are, 1st, the neutralization of the bodies, and, 2d, the separation of this neutrality into the first bodies.

The chemical process is *finite* as compared with the organic process, because the unity of diremption, and the diremption itself, which in the vital process are absolutely inseparable, are here two distinct phases, — because the forms entering the process are immediately quiescent, the process then consisting in the reduction of these different forms to unity, or in their disjunction into difference, so, however, that the products are every time again unilateral. Thus, when metals are oxidized, or a substance becomes an acid, the immediately neutral products are after all unilateral, terms of a difference again. In this manner the entire chemical process exposes concrete forms corresponding to all its various stages. This serial succession of stages in the chemical process, and of the respective products, is to be the scale for a classification of chemical compounds.

Taking the chemical process in its serial totality, we find, that, 1st, in the *formal* process (amalgamation, &c.) the difference is not yet real ; 2d, in the *real* process the nature of its activity gives again several gradations : (a.) in *galvanism* the difference becomes real only in the process ; several metals, e. g., come into contact, their differences enter into relation, the process arises, and the differences become chemical ; (b.) in the process of *fire* the activity exists *without* the body ; for fire is the consuming, internally different being pro se, — the restlessly Different, which is active in creating difference, acids and alkalies being the product ; these, again (c.), enter into active relation, and the differentiating activity incorporates itself, the products being the *salts* ; (d.) finally, we have the return of the Neutral to its origin, to the acid, oxide, and the radical element. All these phases may be referred to the two great momenta of *composition* and *decomposition*.

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I. COMPOSITION.

a.) *Galvanism*.

THE process, whose momenta have just been enumerated, begins in immediate, indifferent corporality, which yet keeps the different properties undeveloped in the simple determination of specific gravity, — in metallicity. The metals, which are only different, but not spiritualized against each other, excite the process in communicating their immanent determination to each other by their solid unity (internal fluidity, conducting power of heat and electricity); and as simultaneously independent, they become subject to mutual electric tension. But the difference can realize itself in the neutral water in combination with air ; thus a *real* activity of the

metals ensues, and the electric process becomes chemical. Its production is oxidation and deoxidation, or hydrogenation of the metal, or at least disengagement of hydrogen gas, i. e. a position in abstract existence of the differences into which the diremption of the Neutral has taken place, — the union with the base at the same time coming to existence in the oxide or hydrate, which then is the second kind of chemical corporality.

The combination of the two metals has at first no existing mean; the mean is only the contact. But the real mean, corresponding to the *medius terminus* in logic, is in nature the existing duplicity. The mediating term here, which is directed towards the two unilateral extremes, and in which the integration of the latter is to be effected, must be a real difference. Atmospheric air is thus necessary, in order to induce galvanic action.

The result of the galvanic action is, that the identity of the particular differences, which in the metals coexist with indifferent independence, and with it the difference of the one *at* the other, comes to existence. The differences themselves not yet existing in separate reality, the product cannot as yet be neutral; we thus have abstract existences, — gases and aerial products. Now, since water is the neutral medium between the metals, in which the differences meet, each metal takes its existing difference from the water, and determines it to oxidation, on the one hand, and to oxygenation, on the other. The character of water, however, is neutrality, and the truly spiritualizing, differentiating principle exists, not in water, but in air.

b.) *Process of Fire.*

The activity, which in the preceding process merely existed potentially in the difference of the metals that were brought into relation, appears in actual existence

pro se as *fire*, in which the third kind of corporality, the *Combustible*, is spiritualized, and brought to chemical opposition, — to acidity and alkalinity.

One side of this process is fire as *flame*, in which the unity of the difference, which was the result of the galvanic process, exists pro se in the form of free restlessness, of self-consumption. The other side is the object of fire, the combustible body. The result of the process, then, is, that, on the one hand, the fire exists as physical quality, and, on the other, the material body exists as that which it already *potentiâ* was, as fire. The incorporated fire is the acid. The physical body, the possibility of combustion and spiritualization, is not only dead reduction to passive indifference, but becomes really burning. The spiritualized material, being thus absolutely opposed to itself in thorough self-contradiction, is throughout a relation to another material, and demands it for its own realization. The combustible material exists, then, under a twofold aspect, — first, as the common combustible body (sulphur, phosphorus, &c.), and, secondly, as a neutral body. In both the quiet subsistence is but a *mode* of existence, whilst in the galvanic process the indifference of the metal constitutes its nature.

The bodies, which conflict in the process of fire, come together externally, which is conditioned by the finitude of the chemical process. As the mediating principles, elementary bodies intervene, — air and water.

c.) *Neutralization, — Process of Water.*

The differences produced are absolutely antithetical, and this antithesis constitutes their quality, so that their separate existence is but a forced one. *At* themselves (*potentiâ*) they are therefore the process of identifying themselves with their corresponding negative, and the product is the *neutral salt*, — the fourth and real body.

In metals the difference was merely ideal ; as soon as each momentum of the difference exists, the impulse to integration immediately appears, and each momentum is the present craving for neutralization. The momenta are at war with themselves, and are thus unable to exist independently.

d.) *The Process in its Totality.*

The perfectly real chemical process appears, as soon as these neutral bodies are again brought into relation. Water, the absolute medium of neutrality, effects their mediation. But both, as neutral in themselves, would be without mutual difference ; we come, then, to the specification of neutrality. The differences of the chemical bodies are particularized, and this leads to the so-called *elective affinity*, — the formation of new particular neutralities by the separation of existing ones. The immediate integration of the alkaline and acid principles is properly no process ; the salt is a product due to an action similar to the attraction of the magnetic poles, or to the discharge of electricity. If the process is to be continued, the indifferent salts are again to be brought into relation ; the activity is not in them, but brought about by adventitious circumstances. The contact occurs in a third medium, which is again water. The process is in general this, that one neutrality is destroyed, and another produced. Neutrality is here in conflict with itself, since the produced neutrality proceeds from a negation of neutrality ; particular neutralities of acids and bases war with each other. The affinity of and to a base is annulled, and the negation of this affinity is in itself the relation of an acid to a base, or is in itself an affinity. The new affinities are thus termed *elective*.*

* The law of elective affinities was discovered by Richter, but dis-

II. DECOMPOSITION.

IN the decomposition of the neutral bodies, the return to the particular bodies (to oxides and acids up to the indifferent bodies) through a series of peculiar processes begins. This decomposition, however, is inseparably connected with combination, just as the process of combination immediately leads to the momentum of decomposition.

The coördination of metals, metalloids, &c., in empirical chemistry, proceeds from the desire everywhere to obtain particular substances ; no attention is then paid to their chemical origin, so that even animal and vegetable products are not unfrequently placed in the same group. These substances are to be taken as products and momenta of the chemical process, and as differentiations of the original elements ; their true arrangement would be the following : —

a.) *The gaseous bodies*, as individualized and differentiated air : (a.) *Nitrogen*, the abstractly Indifferent ; (β.) *Oxygen* and *Hydrogen*, the terms of the difference (antithesis) ; (γ.) *Carbonic acid*, the mediation between the terrestrial and the aerial element.

b.) *Individualized, realized fire*, and its counterpart, the Combustible, which in itself constitutes a totality : (a.) the combustible *base*, the potentially Burning, Igneous, — not the indifferent principle, which is merely to be stated as a difference, nor the Positive, which is simply to be limited by the Negative, but *negativity in itself*, slumbering time realized in itself, whose quiet subsistence is barely formal, whose immanent negativity constitutes

regarded, until Berthollet and Wollaston made use of the discovery, and rendered it important.

its existence, — *sulphur, naphtha, oils, &c.*; (β .) the *acids*, — ($\alpha\alpha$.) *sulphuric acid*, the acid of the terrestrially Combustible, ($\beta\beta$.) *nitric acid*, ($\gamma\gamma$.) *muratic acid*, &c., ($\delta\delta$.) the terrestrial acids; (γ .) the oxides and alkalies.

c.) *Realized water*, the neutrality of acids and oxides, — *salts, &c.*

d.) The merely gravitating terrestrial element, — *the metals*.

The chemical process is indeed life, since the immediate individual body is both annulled and produced as such. But the bodies entering the chemical process are immediate, and thus the process is desultory and finite; its momenta appear as external conditions, the separating bodies discede into indifferent products, the fire is extinguished in neutrality, and does not spontaneously rekindle itself. The beginning of the process differs from its end, and this constitutes its finitude, which separates and distinguishes it from *life*. The appearance of life is lost in the product; if the products of their own accord recommenced the chemical process, they would be life. Life is, in this view, a continued chemical process. In a chemical body, the specific determination is identical with its substantial nature; in the vital, organic body, on the contrary, this specific determination is not identical with the substantiality of the Individual, but this is simultaneously both finite and infinite. In the chemical process the momenta of the idea are interrupted; the entire chemical process contains, first, the fixed determination of indifference, and, next, the impulse of being its own antithesis, which then annuls the first determination. Still, the first quiet subsistence and the latter impulse are distinct from each other, and the totality is ideal only. Both momenta in their unital coexistence constitute life, and this unity is not present in the chemical process.

Yet in the chemical process the relativity of the immediate substances and qualities is stated. The indifferent corporality, then, now stands as a *momentum* of individuality. The idea in its adequate reality, then, producing itself as a concrete unity from the particularization of the definite corporalities, the activity, which at the same time effects its own particularization, its diremption into the momenta of the idea, and the reproduction of its unity from that particularization, is the *organism*. In this manner the transition from inorganic to organic nature, from nature's prose to nature's poetry, is achieved. In the chemical process, the bodies are not merely superficially, but thoroughly, changed ; all the properties, as cohesion, lustre, color, sound, &c., are lost. The chemical process brings the relativity of the apparently indifferent determinations of individuality to light ; the body shows the transience of its existence, and this relativity is its being. If a body is to be described such as it really is, the circle will be complete only in the whole circle of its changes, for the true individuality of a body does not consist in any one state. It is evident, then, that the bodies, in order to become their own reality, are forced into this activity ; the chemical process exhibits the dialectics in which all the particular properties of a body are driven into infinitude, and that which remains constant is alone the infinite form, the bodiless individuality, which is *pro se*, and for which material subsistence is thoroughly changeable. The chemical process is the highest stage to which inorganic matter can attain ; it destroys itself there, and proves the infinite form alone to be its truth. The entrance into the higher sphere of organic life then accomplishes the realization of the infinite form, and existence is universalized. This organic life is the free fire (*a.*) as purified from materialization, and (*b.*) as materialized in its existence.

C. — ORGANIC PHYSICS.

As soon as individuality determines itself to particularity and finitude, and at the same time denies this finitude so as to restore itself to its infinite unity, — in its end, therefore, returning to its outset, — it rises to the sphere of the first ideality in nature. It is now a unity, but a differentiated, a replete unity, relating to itself in and through its immanent negativity ; it is, in a word, subjective. The idea thus attaining to its first immediate realization is *life*. This is, first, as shape, the general image of life, — the *geological organism* ; secondly, the particular, formal subjectivity, — the *vegetable organism* ; and, thirdly, individual, concrete subjectivity, — the *animal organism*.

In Logic it has been shown that the idea has truth and reality only as subjective and self-mediating ; in the form of the *immediate* idea, therefore, it is merely the corpse of the vital process, — the organism as the totality of mechanical and physical nature. Next comes subjective life in vegetable nature, — the individual disceding into its members, which are individuals themselves. In the animal organism, finally, the differences of form are barely momental, and exist only as the organs of subjective individuality.

Subjective life is the result, when the particular body annuls the several modes of its existence ; it is unity and self-equality like light, but as *proceeding from*, not as *preceding*, the totality of particularizations, which are compressed and resumed in their first ideal indifference. Individuality is now in itself heavy and luminar ; it produces and maintains itself as a process in and from all differentiations. The living body is continually on the point of proceeding to the chemical process ; oxygen,

hydrogen, salts, &c., are ever about to be formed, but immediately annulled again. In disease only and in death the chemical process takes the ascendancy. Whatever lives is constantly in danger, constantly in contradiction with itself, but it sustains this contradiction and resolves it, — a power which is not attainable by the impotent Inorganic. The understanding sees only the difference in this contradiction, not the unity ; hence the impossibility for the understanding to conceive life. The continued activity of life is a continued idealism ; the living principle unceasingly becomes its own counterpart, which is just as unceasingly destroyed and identified with the principle itself. Life, then, is simply the *truth* of existences ; it is higher than the stars and the sun, which latter is indeed an individual, but not a subject. Life is a unity of contradictions ; it exists, when the Internal and External, cause and effect, object and means, subjectivity and objectivity, are the same.

The solar system was the first organism ; but it was only *ideally* such, not an organic *existence*. The gigantic members of this organism are independent forms, and they constitute, as it were, a *mechanical organism*. In the truly living individual, on the contrary, the members are dependent on the subjective unity and only phenomena of it. Life is a totality in itself, and therefore its own object and purpose. Life is its own means, — the means for the realization of its own idea. Its beginning and its end coincide.

As the idea life is its own movement, in which it becomes a subject by objectivating itself, becoming its own counterpart, and thence returning to itself. These three momenta are represented by the *mineral*, *vegetable*, and *animal* kingdoms respectively.

Life, presupposing itself as its counterpart, its “*alterum*,” is, first, *geological nature* ; it is not properly sub-

jectivity there, because it is not the reduction of the Particular to unity. We have still individuality, on the one hand, and its process, on the other ; the individuality does not as yet exist as the active, idealizing life ; it is life estranged from itself. The earth is the system of life, but only its skeleton, whose process is external.

Next comes the stage of reflection, where the individual is its own vital process, but only as the subject of reflection, as formal subjectivity, whose identity with the object is not yet stated. The subjectivity is still abstract, because it still proceeds from the above estrangement ; it is merely *punctual* subjectivity. The subject particularizes itself, maintains itself as subjectivity in its relation to the "without," forms organs and pervades them ; but it is thereby at the same time forced out of itself. The organs and parts of the plant constitute the whole subject, and are individuals in themselves. — This sphere, the *vegetable kingdom*, may be called the kingdom of *neutrality*, of *water*.

The third — *animal* — kingdom is the kingdom of *fire*, individual subjectivity as perfectly living in itself, — the unity of the plant and of its differences. Here the parts and members are *only* members ; in all of them the subject is ideally stated. Thus the individual life is subject, soul, the Ethereal, the essential process of organization and extension, so that the differences are immediately stated in time, but equally resumed in their eternal unity. Animal life is the idea exposing itself in time and space ; the individual finds itself in itself ; it remains one in its different determinations.

I. GEOLOGICAL NATURE.

THE immediate terrestrial organism does not exist as life, because it is without a process and activity effecting

the mediation with an individual self. The members of this organism do not, therefore, contain the process of life within themselves ; they constitute an external system, whose formations represent the development of a fundamental idea, but the process of whose formations appears as *past* (because it does not proceed from an individual unity). The agencies of this process are the connecting dependencies of the earth upon the solar system, — the earth's station, its solar, lunar, and cometary life, the inclination of its axis to its orbit, and its magnetic axis. To the last the distribution of seas and continents is referable, as well as the enlargement of the continents towards the north, their contraction towards the south, the mountain ranges, &c.

Three momenta are to be distinguished in the terrestrial process : 1st, the universal absolute process of the idea, in which the earth is created and maintained, — a creation which is eternal, because the infinite creative power of the idea is perennial ; 2d, the process as existing in the earth, as the vivification of its elements ; 3d, the process as a series of changes and modifications, whose record is the history of the globe.

The special formations of the earth are the subject of empiric geology. Its physical organizations do not begin with the simple involved form of a germ, but with a double original form, — the concrete granite with its three preformed momenta, and the calcareous, neutral element. The evolution of the momenta of the first gives a series, in which the formations are partly transitions, in which the granite remains the modified base, — partly a separation of the momenta into more determinate differences, and more abstract mineralogical forms. The modification of the second neutral element partly accompanies this, and partly both principles encroach upon each other promiscuously.

The root of all the formations, it has been remarked, is not a simple "self," but the developed totality of the formations, which already includes the momenta, — *granite*. Granite exhibits throughout a beginning of crystallization. It consists of three elements, the momenta alluded to : 1st, *quartz*, absolute earth, brittle punctuality ; 2d, *mica*, the punctuality developing itself as surface ; 3d, *feldspar*, the transition to neutrality, the calcareous element. Such is the simple terrestrial trinity, which now proceeds to unfold itself under its various aspects. Granite is the totality ; at first, it remains as such, and merely contains the differences as its forms in *primitive rocks* ; next, the differences penetrate the substance, and become simple abstractions, — *stratified rocks* ; finally, we have the reduction to indifference, — *alluvia*.

In the primitive rocks the contrasts between the *silicious*, *aluminous*, and *calcareous* principles present themselves at once. The primitive calcareous mass is opposed to the granite, and the two therefore constitute an antithetical series. — The details given by Hegel concerning the distribution and succession of strata, the position (*situs*) of metals, &c., belong rather to the special branch of geology, without forming an essential part of the philosophical system, and on that account I cannot make room for them here.

The earth, the crystal of life, whose idea is its external sideric connection, and whose process is presupposed as past, is the immediate subject of the meteorological process, which, as the ideal totality of life, fructifies it for vitality. Continents and seas, the whole embodied possibility of life, everywhere evolve themselves as punctual and transient animation, — fuci and infusoria appear everywhere. The free, independent members of the general meteorological process — the solar, cometary, and lunar *principles* — are here stated as the solar, cometary, and

lunar *elements*, — the air as atmosphere, the water as sea, and fire as the dissolved, fructified earth. The life of the earth is the atmospheric and marine process, in which these elements are generated, so that each of them is a separate life, and nevertheless a constituent of the whole process.

The first determinate life is the *atmosphere*. The atmosphere is the dissolved, really polarized earth, the relation of gravity and heat ; it percurs the periodical changes of years, months, and days, and expresses them as variations of gravity and heat. Hence the ebb and tide of the atmosphere, — the variations of barometrical pressure.

The second phase of determinate terrestrial life is the neutral earth, — the *sea*. The variations of ebb and tide, of flux and reflux, recur here also. The sea is a higher vitality than the air ; it is a living process, always on the point of breaking forth as subjective life. The method of vivification here is the *generatio æquivoca* ; an organism arises immediately, without being further productive ; the infusoria thus serve as a mere transition.

The third phase is the *continent*, — the gigantic corpse of a life gone by, the firm crystal of the lunar element, whereas the sea corresponded to the cometary principle. This continent everywhere becomes fertile in individual, living products, but is apt to break forth in vegetable forms rather, whilst the sea evolves animal organisms. The general vegetation of the earth consists at first of fuci, mosses, &c., which are produced wherever there is earth, air, and moisture. Similarly, fungous plants, mushrooms, &c., appear. All these forms are not properly organic ; they are not produced from seeds, nor have they a regular development.

In the geological organism the identity of the idea is *potentially* present ; it therefore forces itself to subjec-

tivity, becomes existing identity, and excludes the universal physical momenta, although they are the conditions, the material and the exciting agencies, of its existence. Subjective life is the perfectly fluid penetration of all its organic parts ; it constitutes the true organism.

The Organic is the self-maintaining reality, which pursues its process in itself ; it is the Universal disceding into its parts, which again annul themselves in producing the whole. It is, first, individual, the mean between the Universal and Particular ; it organizes itself in itself, is, as it were, its " self-digestion," so that the organization is a mere shaping out of its ideal momenta. But it is, secondly, likewise the Particular, excluding the abstractly Universal.

The reality produced by the unity of the Universal and Particular is the *genus* (or better, perhaps, the Generic, — "*Gattung*"), the power against the individual ; this individual is annulled and another one produced. Such is the *sexual relation*.

II. THE VEGETABLE ORGANISM.

THE plant is the first subjective vitality, in which the objective organism and its subjectivity are yet identical without mediation. The process of organization and individual maintenance is here a discession into several individual plants, to which the subjective plant stands rather in the relation of basis than of a pervading unity ; each part — the bud, branch, &c. — is at the same time the whole plant. On this account the differentiation of the organic parts is but a superficial metamorphosis, and one can easily discharge the functions of another.

In vegetable life, as in all life, the categories of causality, &c., disappear, or obtain only in a speculative

sense. There is development from the Ideal ; and we can thus simply say, the plant is its own cause. The life of the plant is, however, imperfect ; it is the feeble infantine life without differentiation in itself. Particularization, the general attribute of life, occurs ; but the particularity in the plant is *immediately* identical with its vitality. The plant does not exist in a state from which its inner life is distinct, but its quality perfectly interpenetrates its general vegetative nature. The growth of plants is an increase with a change of form ; whereas animal life is mere enlargement of forms already existing, since in animals the totality of the members has been resumed in subjectivity. Vegetable development is but a multiplication of individuality, so that the individuality is a mere *superficial* unity of the Manifold. — In this manner the *process of organization* and of the reproduction of the *one* individual coincides with the *sexual process*, being a perennial production of new individuals. Since the subjective universality, the “One” of the individual, is not yet distinct from its real particularization, it neither internally determines its place in free motion, nor has it an existence for itself against its physical particularities ; it is therefore without a self-interrupting “intussusception.” Its nutrition is a constant accrement. It is equally devoid of animal heat and of sensation, since it is not the process in which its members are reduced to negative, simple unity. Every thing organic is self-differentiating, and sustains variety in unity. In animal life, in the truth of the Organic, the difference pervaded by the substantial form is but one phase, and the substantial form in itself the other ; thus the animal is endowed with sensation. The plant does not progress to this difference between the organic crystal and the individual point of unity. In the plant the soul is merged in the processual Exterior. In the animal this soul exists in a

twofold capacity : 1st, as immanent and vivifying ; 2d, as the individual, unital, simple "self." The organized body of the plant is not, therefore, the objectivity of the soul ; the plant is not yet self-objective.

Since thus the subjective unity of the plant yet merges in its quality and particularization, and its negative subjectivity is without self-relation, this subjectivity, this "self," does not exist as supersensual, but only as the sensual unity of the Material, — a *spatial* unity. The animal stands opposed to space as a process, and annuls it in stating another one ; it moves. Not so the plant. The motions of the pistils and anthers, oscillations of conservæ, &c., are but phenomena of growth, and solicited from without, as by the influence of light. If the plants interrupted themselves in their relation to the "without," they would have to exist as truly subjective. But their individuality ever distributes itself in their particularity, and does not remain within as infinite "being *pro se*." Consequently there is no regular internal nutrition ; the external elements uninterruptedly act upon the plant. Again, from a lack of internal process, there is no development of peculiar heat. The temperature of plants depends upon the medium in which they live, a fact which is attested by the experiments of Fontana. The differences, if there be any, depend upon a communication of heat, and the imperfect conducting power of the bark and rind. Some plants are even colder than the surrounding medium, as, e. g., mesembryanthemum crystallinum. — Plants are devoid of sensation altogether ; the apparent sensibility is but a modification of mechanical elasticity. Nevertheless, the plant is organic, and organizes, differentiates itself in definite formations, which, however, preserve their original homogeneity. The form of plants is yet more or less regular, approaching to well-defined geometrical figures.

The type of plants is simply this : an original point (vesicle, germ, &c.) becomes linear ; this dissection into linearity interrupts itself again, and a new point (node) is formed. In higher plants new individuals (branches, &c.) shoot from the original one in a similar manner.

Goethe, in his "Metamorphosis of Plants," has shown that all the different vegetative parts are forms of the same fundamental life, and that the variety of external forms is merely a superficial transformation of the same type ; the transformation, in his view, consisting solely in contraction and expansion. — It is well known that trees have been inverted, the branches, &c., being inserted in the ground, and the roots turned upwards. The latter then developed leaves, &c., and the former acted as roots. The filaments, &c., can become petals and leaves, as in cultivated roses, and conversely. The thorns of wild plants turn into leaves, upon cultivation, and many similar instances.

The whole development of the plant presents the same homogeneity ; the unity of this form is the leaf, from which the calyx, the corolla, the fructification, &c., may be derived.

The vital process of the plant, like every vital process, appears in the triplicity of its momenta : 1st, the process of internal organization ; 2d, the process of external assimilation ; and, 3d, the generic, sexual process, in which the genus maintains itself. In the plant these processes are yet mutually involved, which embarrasses the exposition.

1. *The Process of Organization.*

The internal process of self-relation is, from the nature of the plant, immediate relation to external particularity, — exterioration. On the one hand, it is the immediate transformation of the nutritious elements into the specific

nature of the plant, and, on the other, the concretion of the vegetable juices thus produced in distinct formations. As a mediation with itself, the process begins, 1st, with the external diremption into roots and leaves, and the internal dissection of the cellular tissue into spiral vessels and veins, of which the former are again of external relationship, whilst the latter conduct the internal circulation. The maintenance resulting from this mediation is, 2d, growth, as the production of new forms, — diremption into abstract self-relation (induration of the wood) and the external rind. 3d, The reunion of the momenta for its maintenance is not a conclusion of the individual with itself, but the production of a new vegetable individual, — in the bud.

It would lead to too many details to follow Hegel in his exposition of the internal development of the plant; the general features are (a.) the diremption into root and leaf, and their opposition, upon which the circulation of the nutritious sap is founded; (b.) the internal process alive in the inner vegetable juice; and (c.) the products: (a.) the cambium, (β.) the dead secretion of ethereal oils, salts, &c., (γ.) the internal diremption of the plant into cortical and ligneous parts.

2. *Process of Assimilation.*

The process of organization is immediately connected with that of assimilation, in which the individual specifies itself externally. The seed germinates only upon external solicitation; and the organic diremption into root and leaf is at the same time a diremption in the (downward) direction of earth and water, and the (upward) direction of air and light.

External nature, to which the plant relates, is that of the elements, not of the individual bodies. The plant relates, 1st, to light; 2d, to air; 3d, to water. The

relation to light is exhibited principally in the inflorescence. In the aerial process, the air is differentiated, and the secreted gases are given out. Water gives consistency to the plant, and at the same time effects a mediation with the solids, &c.

The climax of the process of assimilation is the self-resumption of the plant ; the inflorescence is the plant's developed "self," and therefore also the organ of light. The flower is the self-involving vegetable life, in which the germ of a future plant is concealed.

3. *Generic Process.*

In the inflorescence, the plant engenders its own self, in which the neutral green color becomes specific. The generic process, the expressed relation of the individual to itself, as the return to itself, arrests the indefinite growth. The inflorescence is the highest subjectivity of the plant, the contraction of the whole, the appearance of its internal individual opposition. The substantial form which constitutes the idea of the plant, the "*idea matrix*," attains here to isolated existence. The so-called sexual parts exhibit the inner differentiation of the individual.

The sexual process in plants is merely formal. It represents the conclusion of individuality with itself, exhibits the parts, which, as immediate, are likewise individuals, as transient momenta of mediation, and annuls the particularity of the organism. This phase of negative determination forms the transition to the true organism, in which the external formalization harmonizes with the idea, so that the parts are essentially members, and the subjectivity exists as the penetrating unity of the whole.

III. THE ANIMAL ORGANISM.

WHEN the organism in its exteriorating process preserves its differentiated unity, and idealizes the external forms as members, the organic individuality exists as subjectivity. Such is *animal nature*, — subjective universality existing in itself.

The animal is the existence of the true subjective unity, — a simple soul, the infinitude of internal form exposed in the exterioration of the body, by which it is connected with inorganic nature. The animal has independent motion, because its subjectivity includes negation, — because it is, in a manner, a free time, which determines its space internally. The animal, moreover, possesses voice, since its subjectivity as a *real* ideality commands the *abstract* ideality of time and space, and represents its independent, internal motion as a free vibration. Animal heat is due to the continued solution of cohesion and the separate existence of parts with the maintenance of form. *Sensation*, finally, is nothing more than the general, pervading, simple individuality, which exists as the compenetrating ideality of exterior determination. The individuality, in spite of its presence in the determinate material, maintains and finds itself in itself; it is the total unity throughout, and thus the principle of *sensation*.

The animal is subject to gravitation, but not to it alone; it is not, therefore, bound to any particular place. An inorganic thing is determined in space; the animal relates to inorganic nature only by the mediation of time and space. It is the negation of space as particularly determined. Similarly, in its voice, it is the negation of cohesion and specific gravity. Moreover, the animal as the lasting process of motion in itself, of self-consumption and self-production, constantly annuls matter and states

it again, and therefore produces heat. The animal secedes from the general substance of the earth, which remains only as its negativity ; it exists internally, and is the constant return to itself. Yet its *relation* to inorganic nature is unimpaired ; thus the animal alternately merges in an identity with universal nature in sleep, and again is alive to its self-distinction from the same.

The animal organism, as living universality, is the idea which percursor its three momenta, of which each per se is the totality ; and yet, in its formal determination, a transition into the other momenta, so that the totality results from this process as existing. The organism is consequently to be considered, 1st, as the individual idea, which in its process relates to itself alone, and concludes internally with itself, — *form* ; 2d, the idea as relating to inorganic nature, and as stating this within itself, — *assimilation* ; 3d, the idea as relating to its “alterum,” which is itself a living individual, and through this to itself, — *the generic process*.

The animal organism is the “microcosm,” the centre of nature which has isolated itself, and reduced to its sway all inorganic nature in idealizing it.

1. *Form.*

The animal subject as a mere totality, as a relation to itself, is *form* ; it represents the idea as internally developed and determined. It is thus (a.) its simple universal being in itself, infused into its exterior existence, through which the real determination, the particularity, is immediately received into universality, into the identity of the subject with itself, — *sensibility* ; (b.) particularity, as the possibility of excitation from without and its reaction against it, — *irritability* ; (c.) the unity of these momenta as the negative return to itself from its exterior relationship, and thereby generation and statement of itself as

individuality, — *reproduction*, the reality of the previous momenta. — The simple identity of universal subjectivity with itself is *sensibility*; the same in the form of relation to external solicitation is *irritability*; the union of the within and the without, *reproduction*. — In the solar system, the sun corresponds to sensibility, the differences, moon and comet, to irritability, and the planet to reproduction.

The materiality of these three momenta exists in three distinct animal systems : the *nervous*, *arterial*, and *digestive* systems, each of which differentiates itself, according to the same ideal determinations. Thus, 1st, the system of sensibility determines itself (*a.*) as the extreme of abstract self-relation, as the transition to immediate, insensible, inorganic existence, — the *osseous* system; (*β.*) as the momentum of irritability, — the *cerebral* and *nervous* system, — internally the *nerves of sensation*, and externally *nerves of motion*; (*γ.*) as the nervous system of reproduction, — the *ganglia* and *sympathetic nerves*.

2d. Irritability is both the possibility of excitation by external causes and individual reaction against it; its system, then, is (*a.*) *abstract irritability*, the simple change of receptivity into reactivity, — represented by the *muscles*; (*β.*) irritability pro se, maintaining itself in itself, — internal activity, — pulsation as *the system of lungs and pulmonary arteries*, in the former of which the blood kindles in itself, whilst in the latter it is inflamed against the without; (*γ.*) pulsation as irritable totality concluding with itself, — the returning circulation from the central heart through the different arteries and veins, which is both an immanent process and a surrender to the reproduction of the other organs.

3d. The digestive system is immediate reproduction in the cellular tissue, and mediating reproduction in the system of intestines properly so called.

The osseous system represents the abstract reflection of the individual into itself. The bone is at first a sphere ; this becomes a line, just as the vegetable node becomes a fibre. At the extremes the sphere remains. The marrow of the bones is a nerve which has not yet shaped itself out. The elongation of bones is the medium of transition to exterior being. The osseous system opposes itself into exterior and interior parts, just as the plant became antithetical in wood and rind. The bones become, on the one hand, the exterior envelope of the animal, and this concentrates itself, on the other hand, internally as the spine, of which, indeed, the other forms are only transformations. The perfect self-involution of the spine occurs in the cranium, and its evolution in the limbs.

The nervous system is the momentum of difference in the sphere of sensibility. This difference in its resumption is the muscular system. The movement of the muscles is an elastic irritability, at the same time an interruption of external irradiation, and the generation of an internal action. The pulmonary system exhibits the true ideal process with inorganic nature, with the element of air. The result is the circulating blood, the organism returning in itself to itself, the animal time. This rotating motion in the animal differentiates itself as the cometary or atmospheric, and the volcanic process. The lungs are the animal leaf, embodying the relation to the atmosphere ; the liver is the lunar representative of abstract being *pro se*.

The blood is the infinite restlessness of self-evolution, whilst the nerve is the quiescent immanence in itself. In the blood, the infinite discession, the immediate annulment of that discession (in the globules), and its constant recurrence, become visible ; the globules of the blood appear, when the blood is taken from the living organism, but they do not permanently *exist* there. — The concrete system of

this internal differentiation of the blood is the *heart*, — *living muscularity*. The mechanical explanations of the circulation of the blood depend upon a separation of cause and effect, whilst in the living organism cause and effect coincide; it is the *idea* of the blood, to be this self-moving principle. It is just as true, that the blood moves the heart, as that the heart moves the blood. — The stomach and intestinal canal constitute the introverted reproduction.

In the total form all the systems unite, so as to exist in concrete penetration, in such a manner that every formation contains them combined, whilst, on the other hand, the form divides itself into the centres of three systems, — the head, breast, and abdomen, while the limbs constitute the externally differentiated individuality. As a totality, the form distinguishes itself, according to its abstract differences, into the two directions towards the within and the without. Each direction assumes from the previously determined systems the side of inward and that of outward tendency, of which the latter, as differentiated, exhibits its difference in the symmetrical duality of organs and systems. — The totality, as completely living in the individual, is particularized in the sexual relation.

The animal form, as living, is essentially a process; and as such, it is the abstract process of formation within itself, in which the organism states its own organs as its inorganic nature, as its means of existence, so that they become mutually objects and means, the result of the process being the simple feeling of self. The organism is the unity of the Interior and Exterior, so that it is (*a.*) the mere inner process of formation, the form itself existing as annulled, revoked; (*b.*) the form as externally existing, — the repose opposed to the process; the whole organism being (*c.*) the higher repose, the unity of both.

2. *Assimilation.*

The feeling of individuality is equally exclusion, the tension against inorganic nature as against its condition and material. The organism directs itself towards the Exterior, and at the same time opposes itself to it; in this relation two independent existences come into a contradiction, which is to be annulled; and this annulment is *assimilation*. The forms of this process of assimilation are threefold: first, the theoretical process; secondly, the real, practical process; and thirdly, the unity of both, the transformation of the Inorganic for the purposes of life, — *instinct* and formative impulse. The immediate reflection of animal organization into itself from its external relation constitutes the theoretical process as *feeling*, determined by the various influences of inorganic nature. All the different sensations are thus ideally stated; the animal is determined by them, and still it remains unital and indifferent against them. The mediation is effected by the senses, which are, 1st, the sense of the mechanical sphere, — of *gravity*, *cohesion*, and its change, *heat*, — *sensation as such*; 2d, the senses of the antithesis: (a.) the sense of aerial appreciation, — *smell*, and (b.) the sense for the Neutral (water), — *taste*. 3d. The sense of ideality is again twofold: (a.) the sense appreciating the manifestation of the Exterior for the Exterior in light and color, — *sight*; (b.) the sense corresponding to the manifestation of internal existence, — *hearing*.

The practical relation to inorganic nature begins with internal diremption, with the feeling of external existence as the negation of the subject, which is at the same time a positive relation, an affirmation of itself, — with a craving, therefore, and the impulse to satisfy it. Only what lives feels want, for it is in its idea the unity of itself and its determinate counterpart. But the want simultaneously

contains its own satisfaction, — the contradiction its solution, for it is an *immanent* contradiction ; and it is this which constitutes the infinitude of the subject. The subject states its limits only because it transcends them. Life *knows* the want as a limit, and is therefore already beyond it. Were the limit an absolute one, it would not be felt as such. It is a privilege of higher organizations to feel pain.

The craving is a distinct, determinate one, and this distinctness is a momentum of its idea, though this be infinitely particularized. The activity, in which the idea, from being merely subjective, becomes determinate, is instinct. Since this instinct can be satisfied only by determinate actions, it seems actuated by a purpose, of which the animal, however, is unconscious. The instinct satisfies itself in either *formal* or *real* assimilation of organic nature ; in formal assimilation, the inorganic material is merely formalized and left in its objectivity (as in the building of nests, &c.) ; in real assimilation, by means of the respiratory process, for instance, the objectivity of the material and its qualities are destroyed.

The real assimilation, after mechanical seizure has been effected, consists in the transition of the Exterior to subjective unity. The animal being *negative* subjectivity, the assimilation can be neither mechanical nor chemical, since in both (mechanical and chemical) processes the materials as well as the conditions of activity remain mutually relative and external.

On the first stage assimilation is the immediate coalition of the inorganic material with the animal organism ; then the mediatory assimilation is accomplished in the digestive process.

By its process with external nature the animal attains to the certainty of itself as of an *individual*. It is in this manner reproduction ; but at the same time the subject-

tivity is annulled in having become a *product*. The idea is thereby determined as concrete *universality*, — *genus*, which enters into process and relation with subjective individuality.

3. *Generic Process.*

The genus is in simple unity with the individuality of the subject, constituting its concrete substance. It is there potential universality ; but the Universal is a *judgment*, and consequently brings itself to existence as the real, subjective, unital Universal. This process of conclusion with itself implies the double negation of the bare internal universality of the genus, and of the merely *immediate* individuality of the single subject. In the generic process the immediately Living, therefore, perishes, — *dies*. — The forms of the generic process are again threefold : first, of the sexual process, in which a new individual is generated by the death of previous individuals ; secondly, the antagonism of the different individuals, leading to violent death ; thirdly, the immanent relation of the individual to the genus, which latter realizes itself in the natural death of the individual.

The sexual process begins with the feeling of inadequacy to the genus in the individual, with the craving, therefore, for integration. and the realization of the genus by mediation with another individual, in coition. The product is the negative identity of the different individuals, which ideally is *generis neutrius*. But as a natural existence the individual again results, and thus the process is perpetuated.

The different classes and orders of animals are founded upon the type of the complete animal, which is exhibited by nature on the various stages of its development, from the simplest up to the most complicated organization. The details belong to the departments of zoölogy and

comparative anatomy. — The inimical, negative relations of the individuals, which likewise exhibit their inadequacy to the genus, give rise to their violent death by mutual destruction.

In the relations just mentioned, the self-mediation of the genus takes place by its discession into individuals, and their annulment of this discession. But the genus, the Universal, stands opposed to the Individual, moreover, in the guise of the external universality of inorganic nature, and realizes itself as an abstract negation. In thus acting upon the individual, it induces a conflict of any of the individual systems or organs with an inorganic power, — *disease*. *Health* is a complete proportionality of the individual "self" and its existence, so that nothing inorganic acts upon the individual, which this does not sway ; the disproportion between the two, between external action or excitement and individual activity, is disease. The antagonism of inorganic nature against the individual may be a *general* one, — as in epidemics, &c., — or it may be a *particular* action. When the disease of any system in the organism influences the whole organism, the disease is *acute* ; when, on the contrary, it confines itself to that system, it is *chronic*.

Further details here would be comparatively uninteresting, and, since they are not essential to our purpose, I omit them. The innate inadequacy of the individual to the genus is its original disease, and the germ of its natural death. The antithesis between the immediate individuality and formal universality is thereby destroyed ; the idea becomes concrete universality, and as such it is *mind*.

HEGEL'S PHILOSOPHY OF THE MIND.

THE mind is the truth and absolute basis of nature ; it is nature's annulment, in which the idea is pro se, — its own subject and object. External nature, too, is a representative of the idea, but in the element of exterior existence, in the essentially Extended, whilst the mind is the essentially Intensive. Nature's existences are intrinsically relative, and in consequence we have seen, even in the organization of animals, the rule of indomitable instinct, the contradiction between the Exterior and Interior. The mind only is the solution of this contradiction, — self-sufficient existence. In the mind the Extensive is completely reintensated ; all the mental activities are modes of effecting this reintensation. In this sense the mind *idealizes* all existences. Not content, however, with thus introverting all things, the mind, in its religious consciousness, penetrates through the apparent independence of existences to the unital, all-comprehending divine power, until it finally completes the idealization in philosophical thought by its cognition of the manner in which the eternal idea exposes itself in these variegated existences.

The substance of the mind is *freedom*, — the dependence upon itself alone, since the idea is here its own object. The mind presupposes nature as its external manifestation ; but it has become conscious of its identity with this manifestation. Its determination by nature, of which the mind is both the foundation and the result, is thus a determination by itself. It is true, that the manifestation in nature is necessary for the idea, just as

the abstract Universal demands its particularization ; but the idea remains immanent in the material forms through which it reveals itself, annuls them as inadequate, first resumes the extended Material in its original intensity, — in *life*, — and then makes this intensive vital unit its own object, realizing itself thus as the *absolute idea*. — The momenta of the development of the mind are the following : —

1. The mind *is* in the form of relation to itself, as *subjective mind*, as the ideal totality of the idea, reposing in itself and therefore free ;
2. The mind *exists* as a self-evolved spiritual world, in the form of reality, as the *objective mind*, until it becomes
3. *Absolute mind*, as the unity of the mind's *idea* and its objectivity which reproduces itself eternally.

THE SUBJECTIVE MIND.

THE *subjective mind* in its ideality develops itself in *cognition*. It is

- A. — *Immediate*, — *soul*, — the subject of *anthropology* ;
- B. — *Existing pro se*, through mediation, — the *conscious mind*, — the subject of the *phenomenology of the mind* ;
- C. — *Self-determining*, as its own object, — the subject of *psychology*.

A. — ANTHROPOLOGY.

THE mind as immediate is the result of the verification of nature, the intensive Universal proceeding from the annulment of extensive, multiple particularization. It is thus, first, the *soul*, the immanent ideal life of nature, and the fundamental substance of all the subsequent determinations of the mind. Vaguely speaking, it might thus be denominated the *sleeping mind*, — the passive *vous* of Aristotle, the possibility of every thing.

The interest in the question, whether the mind be immaterial or not, attaches itself to the fallacious supposition, that the Material is substantial and true in itself, and the mind a coexisting thing. The alleged mystery in the connection between soul and body proceeds from the same misunderstanding. We know that nature and mind are not independent existences of rival dignity, but that the latter is the self-apprehension, the truth, of the former.

The soul is

1. The immediate determination of the mind, as the merely *being*, *natural soul* ;
2. It enters into relation with this immediate being, and is abstractly *pro se* in the determinations of that being, — the *feeling soul* ;
3. It is *real soul* existing in its corporality.

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I. THE NATURAL SOUL.

THE general “macrocosmic” soul of the Universe exists in individual souls, determined by natural conditions *logically prior* to the soul’s ideality. These determinations are the *natural qualities* of the soul, — the qualities

of the forms of nature idealized, converted into *free* qualities.

And first, the life of the soul shares in the universal life of the planet, and is affected by variations of the seasons, &c. The more the mind frees itself from its natural psychic state, the more independent it becomes of these influences. This planetary influence particularizes itself, moreover, in the concrete terrestrial differences, and discedes into the numerous expressions of continental peculiarities, producing the varieties of *race*. Finally, the peculiar circumstances in which each individual is placed cause the differences of temperament, talent, character, &c.

In the individual soul the differences appear as changes and momenta of development. First, the changes incident to the periods of life, — from childhood, where the mind yet slumbers in itself, — through the unfolded antithesis (in youth) of a subjective ideality (such as ideals, hopes, imaginations, &c.) against the actuality which clashes with that ideality, — up to the true relation, the recognition of objective necessity and reason in the existing world, where the activity of manhood tests itself, — and the final reconciliation of all desire with reality, in old age, where this often advances to indifference. Secondly, comes the real opposition of the individual to itself, which seeks and finds itself in another individual, — the *sexual relation*, whose mental and moral import is verified in the *family*. Thirdly, the self-distinction of individuality as self-objective, being *pro se*, in *waking*, from its abstract being in *sleep*. In sleep, the soul is wrapped in its indifferent unital *being*; in waking, it exists as self-objective, self-distinguishing.

Sleep and waking are at first alternating states of the soul. But in the *being pro se* of the waking soul its mere *being* is contained as an ideal momentum; and it thus finds the determinations of the sleeping soul, which there exist

ideally, in and for itself. This determination is distinct from the identity of being *pro se* with itself, —different, and yet contained in simple unity, —*sensation*. Sensation is the vague activity of the mind in its unconscious individuality, in which all determination is still immediate, —undeveloped in its opposition as an object to the subject, pertaining to the inmost, most natural peculiarity of the mind. In sensation, the soul, first, contains the momenta of its corporality as idealized, so that the impressions of the senses are introverted, internally collected; and secondly, its internal determinations are infused into corporality, —symbolized in and expressed by the body, as in the blush, the tear, &c.

Our sensations of the first kind come to us through the senses. The classification of the senses depends upon the momenta of the idea: the senses of physical ideality, —*sight* and *hearing*; the senses of real difference in the sphere of the physical process, —*smell* and *taste*; and the sense of concrete totality, —*touch*. Sight is the sense of external form; it corresponds to light, which might be termed the *physical space*. Hearing is the sense for the pure internal relations of the body, —for motion or *physical time*. The other senses have been sufficiently defined in the Philosophy of Nature.

The unconscious affection of the inner peculiarity of the soul by external sensation is the psychic *mood*. All the sensations become symbolical for us in this view, and are productive of moods; thus we have *gay*, *sombre*, *mild* colors and tones, &c.

The sensations of the second kind, or *inner* sensations, are twofold:—

First, those which relate to the special individuality under peculiar circumstances, such as *anger*, *revenge*, *envy*, *shame*, *remorse*;

Secondly, those relating to something universal, to *justice*, *religion*, *morality*, *the beautiful*, *the true*, &c.

The expression of sensations of the former category takes place by means of the organs of introverted (vegetative) life. Thus *grief*—that powerless self-interment of the soul—expresses itself in the reproductive system, or in that system which represents the negative return of the animal to itself. *Courage* and *anger*, on the contrary, the negative reaction against an external power, act by means of the heart, the centre of irritability, the negative self-expulsion. In anger the heart beats, the blood becomes heated, the face colors, and the muscles are braced. *Shame* likewise appears in the arterial system, for it is, as it were, an anger of man against himself,—a reaction against the contradiction between what he ought to be and what he is, a defence of his inner being against his external appearance. In *terror*, on the contrary, the collapse, as it were, of the soul before a seemingly unconquerable antagonist, the blood retires from the cheek.

Laughing and weeping, inarticulate sounds, &c., belong to the same category. Laughter is produced, whenever an immediate contradiction, something which directly inverts, annihilates itself, is presented, so that we feel our substantial, constant subjectivity in contrast with this annulment. This subjectivity, *the spiritual light*, immediately suffuses the smiling countenance, and the mental repulsion of the ridiculous is expressed by the repeated sudden expulsion of the breath.

Weeping reveals the internal dissection of the subject,—*grief*. The tears are in a manner the express neutralization of this opposition; they are secreted by the eye, which is the simplest corporal image of the mind.

The sensations are particular and transitory determinations, because they are immediate, resumed from corporality. They are changes in the corporality of the soul, stated in its being *pro se*. But this being *pro se* is internally the reflected totality of sensation,—the *feeling soul*.

Mere sensation depends upon the Particular and Accidental, upon that which is immediately given and present ; and this appears to the soul as its own concrete reality. In advancing, however, to consciousness, the individual faces an external world, an objective totality ; it has immediate sensation, but this sensation is only a point in the general connection of things, referring therefore to a sphere beyond its sensual particularity and immediate presence. Consciousness, then, shows its independence of sensation by converting it into generality, making it essential in omitting the Accidental and Arbitrary. Now between this subjective consciousness, on the one hand, and immediate sensation, on the other, the soul, feeling itself in its totality and generality, stands as the mean.

II. THE FEELING SOUL.

THE feeling soul is the simple ideality, subjectivity of sensation. The substantiality of the soul is stated as subjectivity, so that its individuality is no longer externally *natural*, but *internal*.

The feeling individual is, indeed, monadic, but immediate only, and therefore *passive*. Thus its *self* is a subject as yet different from it, which may also be another individual, by which it can be influenced and determined. The subject thus determining the soul is appropriately called its *genius*. Such is the relation of the embryotic child, whose soul is yet unresisting, the mother's subjectivity being the individual, subjective "self" of both. This relation might be termed a *magical* one ; instances of its perpetuation occur between friends, members of the same family, &c. The feeling soul in this immediate passivity only *dreams*, *anticipates* its individuality, and another more powerful subjectivity vibrates within it as its acting principle.

This psychic state embraces three momenta : —

1. The state of dreaming ;
2. The embryotic life of the child ;
3. The relation of conscious to secret internal life, to the individual's definite nature, or to that which has been called the genius of the individual man.

1. In dreams, the soul has a deep, powerful feeling of its whole individual nature and of the circle of its development, — of the present, past, and future. Whilst thus the individual is engaged in immediate relation to itself,

2. The embryotic child presents an individuality, whose real existence is yet dependent upon another individual, so that the soul of the child is in immediate unity with the subjectivity of the mother, which reacts even upon the organization of the child.

3. The last mode in which the soul attains to the feeling of its substantial totality is the relation of the individual to its genius, — to its peculiarity, which guides its action and being. This peculiarity constitutes the destiny, the fate, of the individual ; for it is the oracle whence all resolutions flow, and where all the delineations of character are shadowed.

As a form, a temporary state, of the developed, self-conscious man, this state of psychic existence is a disease, in which the individual refers without mediation to its concrete substantiality, and distinguishes itself from its reflecting consciousness, — *magnetic somnambulism*, and kindred states.

The concrete being of an individual embraces the totality of its fundamental interests, — the essential and particular empiric relations in which the individual stands to other men and to the world generally. This complex is present in every man as his totality, — not in the form of the free, thinking mind, but in the form of mere pas-

sivity. Of this reality the developed individual is conscious, as of an internally coherent variety. The internal world spoken of becomes, therefore, also a repletion of consciousness. If now this consciousness be again merged in its own abstract substantiality, this immanent reality remains as an internal life of psychic feeling, as the "genius" in its self-intuition. The mediations incident to conscious life (causal dependencies of time and place) are here removed; the whole vital connection in its solidity is perceived, and a state of *clairvoyance*, &c., results. The whole state is one of passivity, and a return to an inferior stage. — The soul can on that account also be subjected to the influence of another subject, as to that of the magnetizer. In such a case, the conscious subjectivity of the magnetizer impregnates the passive psychic substantiality of the patient with its sensations, ideas, &c. The soul in this passive state is utterly without opposition to an external objectivity, and therefore also devoid of the organic particularities of sensation, so that a remarkable interchange of functions, such as hearing and seeing with the fingers and other organs, can well occur. — Visions, &c., when they are authenticated, are extraordinary in so far as they dispense with the proper dependencies of time and place, of causality and coherence. They appear quite natural, if we reflect that the organic differentiation — the laws of mental consciousness — is annulled in this peculiar slumber of the soul, which, as spiritual, is *in itself* not bound by any of the above categories. Hence, then, the most distant associations, recollections which are quite strange to the mind in its conscious activity, and similar phenomena.

Respecting the physiological features of the magnetic sleep, it is to be observed, that all psychic activity is transferred from the external to the internal organs, — from the brain to the reproductive system and their nerves, — the ganglia.

It is in the nature of the feeling totality to distinguish itself internally, and to awaken to definite sensations, to which it then relates as subject. The soul is then merged in the particularity of sensation ; but at the same time it therein concludes with itself as a subjective unit, so as to be the *feeling of itself*. Owing to its immediate unity with the body on this stage, it is liable to the impotence of idealizing the particular sensations, of reducing them to psychic unity, so that it remains, so to speak, *congealed* in some particularity. In this manner the soul exists in the contradiction between the totality systematized in its consciousness, and a special determination not subjected to that totality ; and such a state is *insanity*.

In a healthy state of the mind, we are likewise engaged in the particularities of the observed world ; but we convert them into ideas, and are no longer cognizant of them in their isolated particularity ; we know them as momenta of a spiritual connection, as mediated by other particularities. The insane subject, on the contrary, clings to the immediate particularity of the object, without this ideal conversion. The abstract generality of the "I" is consequently in unresolved contradiction with a detached particularity ; the former identity between an idealized objectivity and a naturally ideal subjectivity is destroyed, and the subject is thereby separated from the objective world. The subject is in a manner enveloped in itself. On the first stage, there is little or no reciprocation between the soul and the objective world, as in *idiocy*, *distraction*, *dotage* ; next, the soul thus enshrouded in itself becomes affected with a particular determination, which excludes all other affections, — *lunacy* ; and finally, a comparison is instituted by the soul itself between the particular subjective determination and objective consciousness, so that the contradiction becomes apparent, — *maniacal insanity*. *Idiocy* occurs in a vari-

ety of forms and from a variety of causes, — natural, or as a consequence of delirium, epilepsy, libertine excesses, &c. *Distraction* may be an incipient lunacy, but it may also result from excessive mental concentration. *Dotage* consists chiefly in the inability of the subject to fix itself upon any thing definite, indicative of a debility in the unital consciousness, which links the totality of ideas.

Lunacy arises when the subject becomes permanently affected with a particular determination, so that it is just as irretrievably enshrouded in this isolated determination as the idiot in his utter absence of determination. When the subject is sensible of the two contradictory states of consciousness, but still unable to reconcile them, we have insanity on the highest stages. The subjective feeling, merged in the particularity of sensations, of desires, passions, &c., is in their embrace ; yet it maintains itself as the simple relation of its ideality to itself. That the soul thus makes itself abstract, universal, ideal being, and reduces the particular affections to mere abstract determinations, constitutes *habit*. The soul does not distinguish itself there as conscious from its affections, nor determine them ; but lives and moves in them unconsciously and without mediation.

III. THE SOUL IN ITS REALITY.

ON the preceding stage, the soul dwelt in immediate unity with its body. But it is in the nature of the soul to be self-relating ideality. In order, therefore, to exist in its adequacy to this nature, its identity with the body must become a mediated one, so that the body becomes a pliant instrument of its activity, — its perfect expression and symbol. When the body has, in this manner, been perfectly appropriated by the soul, — when the body no longer signifies itself, but the soul, — the relation of the

latter is truly an individual, subjective one, a relation to itself. As the identity of the Exterior and Interior, the soul is then real; its corporality is the free form in which it feels and reveals itself, and which therefore exhibits a complete physiognomic and pathognomic expression.

The whole body of man is an expression of the mind; this expression embraces, e. c., the formation of the hand, of the mouth, the disposition of the muscles in laughter, — in short, the whole spiritual tone which suffuses the human organism. The perfect symbol of the mind, however, is *language*.

Matter, as such, is without truth in the soul; as being pro se, this detaches itself from its immediate (corporeal) existence, and opposes this to itself as its Exterior. The soul thus loses the character of immediate subsistence; it awakens to its higher self, contains its determinations only as internally recollected, and is reflected into its ideality from an *excluded* external world, — *consciousness*.



B. — PHENOMENOLOGY OF THE MIND.

CONSCIOUSNESS is the stage of *reflection*, of *relation*, — the phenomenality of the mind. The pure, abstract, subjective freedom opposes itself to its determinate natural life as to an independent object; it becomes cognizant in itself of this objectivity, becomes *conscious*.

The subject is essentially negative relation to itself; therefore the immediate contrast of abstract universality and abstract individuality. Not as it appears to us merely, but in itself, the "I" is this self-distinction; it excludes itself as its own counterpart, separates its *being* from its *thought*. In stating this being as simultaneously different from and identical with myself, I know, and

have the absolute certainty of, my being. This certainty is not a quality or an attribute of the "I," but it is the very nature of the "I" to distinguish, differentiate itself, and to remain identical with itself in this difference. Certainty bears the same relation to the "I" which freedom bears to the will.

The "I" with its self-certainty is at first only the simply Subjective, the abstractly Free, the indeterminate ideality or negativity of all limitation. Repelling itself, therefore, the "I" first attains only to a *formal*, not to a *real* difference. But, as Logic has taught us, this formal difference is to be *really stated*. The "I" therefore unfolds its necessary counterpart to a totality *equal* to the totality of the "I," and makes it an independent *object* in the proper sense of the word. Now, since the "I" is the immanent unity of its subjective and objective existence, it is necessarily related to this difference, and immediately reflected into itself from this objectivity.

Consciousness is on this account at the same time a contradiction and its immediate solution. The mind as "I" is *essence*; but since in the sphere of essence reality is stated both as immediately being and as *ideal*, it is only the phenomenality of the mind.

The end and endeavour of the mind in the form of consciousness is, to make its phenomenality identical with its essence, to enhance the self-certainty to *truth*. Mere conception makes no distinction between certainty and truth. But philosophy must make that distinction; for the mind, as immediately certain of itself, is still involved in the contradiction of being, on the one hand, independent in itself, and, on the other, necessarily related to the "without." This contradiction is to be annulled, and it contains within itself the impulse to this annulment. Subjective certainty must no longer find a *limit* in the object; and, conversely, the object must not only be

abstractly related to the "I," but must become identical with it, transform itself into the concrete "I." The stages of this progress from certainty to truth are

1. *Consciousness*, which faces an object in general ;
2. *Self-consciousness*, whose object is the "I" ;
3. *Unity of consciousness and self-consciousness*, so that the mind sees the object as itself, and itself as objectively determined, — *reason*, — the idea of the mind.

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I. CONSCIOUSNESS.

CONSCIOUSNESS contains again the three stages of

- a.) *Consciousness of sense* ;
- b.) *Observing consciousness* ;
- c.) *Understanding consciousness*.

The object is, first, immediate, and as such it appears to the consciousness of sense. But as such it has no truth ; we must proceed, secondly, to the essence, to the nature of the object. The object is therefore referred to something general, — the consciousness becomes *observation*. But as it is merely referred to the General, it is not as yet *one* with it ; it is then, thirdly, *understanding*.

a.) *Consciousness of Sense.*

The object has no other determination here than that of *being*, and of being *independent* of the "I." (The particular affections of color, smell, taste, &c., belong to *sensation*.) Now this object, this "something," changes in the face of consciousness ; it has many qualities, and becomes a multiplicity of *relations* and *generalities*. Instead of being an *immediately* particular object, it proves to be dependent upon the "without." Consciousness apprehending these relations becomes *observation*.

b.) *Observing Consciousness.*

Having transcended the particularity of the object, consciousness tends to take the object in its truth, — not as *immediate*, but as *mediated, reflected, general*. With this the union of consciousness with the object is no longer the abstract one of certainty, but it is determinate *knowledge of it*. In this manner, however, the particular object is *mixed* with generality; it becomes involved in the contradiction between the particular *thing* of perception, and abstract generality; it proceeds dialectically, then, to a third sphere, and becomes the object of

c.) *The Understanding Consciousness.*

The object is now seen as a phenomenality to which its internal general nature is opposed. This internal nature is, on the one hand, the *annulled* multiplicity of sensual impressions, while, on the other, this multiplicity is immanently retained, although as the simple ideal difference, which remains identical with itself in the change of phenomena, as the *quiet realm of laws*, the general reflex of the phenomena.

The law, primarily the relation of general, lasting determinations, has its necessity in itself, since its differentiation is internal; one determination is immediately contained in another. But this difference is thus the *difference as such*, — essentially difference, or a difference which is at the same time unity. Thus consciousness, which maintains the distinction between subject and object, disappears; the “I” has an object, which is no longer different from itself; it is *self-consciousness*.

 II. SELF-CONSCIOUSNESS.

THE truth and foundation of consciousness is self-

consciousness. I know of an object as *my* object ; in it I therefore know myself. The expression of this consciousness is therefore $I = I$; *abstract freedom, pure ideality*. Abstract self-consciousness is the first negation of consciousness, and therefore includes consciousness. Both this and the negation of it being already annulled, it is as this certainty of itself against the object, the impulse to make self-consciousness determinate, and, conversely, to free itself from its sensual counterpart, — to identify its self-consciousness with consciousness.

Abstract self-consciousness is only the first negation of consciousness, and on that account conditioned by the statement of the latter ; it is not the negation of the negation, — *absolute affirmation*. It therefore develops the simple ideality of the “ I ” to the real difference, states its objectivity, and then penetrates this, and retains it within itself as dissolved in its being. In order to attain to this, it percur three stages.

a.) The first stage exhibits the *immediate*, self-identical, and therefore self-contradictory self-consciousness, — *craving self-consciousness*, — *appetency*.

b.) On the second stage, the objective “ I ” is determined as an external “ I ” ; thus the relation of one self-consciousness to another results, and between both the process of *recognition*. Here self-consciousness is no longer *individual* self-consciousness, but in it the union of individuality and universality begins.

c.) The mutual opposition of the two “ selves ” annulling itself, *general* or *universal* self-consciousness appears.

a.) *Appetency*.

As immediate, the self-consciousness is individual and appetent, — the contradiction between its objective abstraction and its immediate subjective existence. Thus

it is the impulse of annulling this contradiction, to *mediate* its unity.

Self-consciousness knows itself as *ideally* identical with the object ; the *real* identity is stated in the negation of the two unilateral momenta, — the appetent subject and its object, — in the assimilation of the latter. The subject maintains itself, for it is its own end and object ; but the object perishes, because it is inadequate to the idea, the representative of which is the subject. The result of this is, that the subject concludes with itself, satisfies itself, and becomes real. But in this activity the subject acts as destructive and egotistical ; the craving, the desire for the object, consequently arises anew after the gratification. Nevertheless, internally, the feeling of “self” imparted to the “I” in this gratification becomes determined as generality (universality) by the negation of its *immediate* existence, and sensible of the identity of self-consciousness with its object. The diremption of this self-consciousness is the consciousness of a *free object*, in which the “I” is cognizant of *itself*, but of a “self” which exists without.

b.) *Recognizing Self-consciousness.*

We have now a self-consciousness for a self-consciousness, an “alterum” for an “alterum.” In the object I look upon myself, but as upon a “self” *immediately being*, as an independent, different object. Self-consciousness *shows* itself here as the free “self,” and exists for the alterum as such in the process of *recognition*.

The process of recognition is a conflict ; for I cannot know myself in the alterum, inasmuch as that alterum is an immediately external existence ; I must, then, destroy that “immediateness.” In like manner, I cannot be recognized without annulling my “immediateness,” and bringing to light my freedom. But this immediateness is

the corporality of self-consciousness, in which, as in its instrument and symbol, it has its feeling of "self" as well as its being for others and its mediating relations. The conflict of recognition is therefore one of life and death; each one of the two selves brings the other into danger, and enters into danger, — but only into *danger as such*; for it tends to the maintenance of its life as well as to the existence of its liberty. The death of the One, which by the abstract, and therefore crude negation of immediateness resolves the contradiction on one side, is thus on its essential side a new contradiction and a higher one than the first.

This conflict belongs only to the rude state of society, not to its civilized condition. In the former it is brute, destructive, outward force, which mediates the self-recognition of the individual as free; in the civilized state, that which is the result of this conflict exists already.

Life being as essential as liberty, the conflict as unilateral negation ends in inequality, so that one of the conflicting subjects prefers life, and yields its claim to being recognized as self-consciousness, as free: *the relation of dominion and slavery*. All states have emerged from this relation of violence. In the first place, this relation is a mutual one, since the means of it, the slave, is to be maintained in his life. In lieu of rude destruction, then, the sustenance of the object becomes mediatory. Secondly, the master attains to the recognition of his individual being pro se through and in the slave. The latter, in resigning his *individual* self-consciousness, effects the transition to *general* self-consciousness.

c.) *General Self-consciousness.*

This general self-consciousness realized is the affirmative recognition of one's own "self" in the other "self," both, as free individualities, being absolutely independent,

and stating the real generality as mutual relation in becoming conscious of being recognized, and recognizing itself in and by the other. This general reappearance of self-consciousness, the idea which knows itself as an objectivity identical with its subjectivity, is the consciousness of *substance* in every essential spirituality,—of family, country, the state,—of the virtues, as love, friendship, bravery, honor, fame.

This unity of consciousness and self-consciousness first contains the individuals as reflected in each other. But the difference between the two is then quite indeterminate,—*formal*; the truth then is the generality and objectivity of consciousness in and for itself,—*reason*.

III. REASON.

THE truth in and for itself, which is reason, is the simple identity of subjectivity and objectivity or generality. Self-consciousness, so determined, that its determinations are at the same time determinations of the essence of things,—its own thoughts,—is *reason*, which as this ideality is not only the absolute substance, but *the truth as reason*. For its peculiar definition here is the immanent, pure idea, “I,” the certainty of its infinite generality or universality. The cognizing truth is the *mind*.

C. — PSYCHOLOGY. THE MIND.

THE mind is the truth of the soul and of consciousness,—of the immediate, simple totality, and of external knowledge, which latter now no longer limits the former as its crude material, does not refer to it as merely objective, but is knowledge of the substantial totality, which is

neither subjective nor objective. The mind, therefore, is the general certainty of itself, without antithesis, — self-knowing truth.

The soul is finite, because it is *immediate* and determined by nature ; consciousness is finite, because it has an object opposing it. The mind is finite only inasmuch as it is determined in the form of the *subjective* idea. Infinite, absolute reason is this idea ; but it is stated in reality as cognition or intelligence. Now reason, as being in and for itself, is not comprehended by cognition ; or, in other words, reason does not completely manifest itself in cognition. Reason is infinite only in so far as it is absolute freedom, presupposes itself therefore in cognition, and is at the same time the eternal movement of annulling this immediate position, of comprehending itself in order to be cognition of reason.

As immediate, the mind is not yet truly mind ; its existence is there in imperfect accordance with the idea, with its absolute divine image ; the Divine is only its essence, to be evolved from it by itself. The finitude of the mind must not be considered as fixed, but as a phenomenal stage of its essentially infinite nature.

The progress of the mind is development, inasmuch as its existence is internal, ideal predetermination, proceeds from reason as its material, and towards it as its purpose ; since, therefore, the activity of transferring the rational purpose into reality is but the formal transition to its manifestation, and the return thence to itself. Just as the object of consciousness consisted in the preceding stage, the *natural soul*, so the object of the mind is consciousness. Consciousness was only *ideally* the identity with its counterpart ; the mind states itself as *really, concretely*, identical with it. Its productions are so determined, that *their* material is its *own*. Its determination is consequently twofold : it finds something as *being*, and states it as its *own*. The mind is thus, —

1. *Theoretical*, — it deals with the Rational as its immediate determination, and states it as its own in *free intelligence* ;
2. *Will, practical mind*, whose material is *only* formal ; and
3. *Free mind*, in which they are both united.

In the theoretical mind, the apparently foreign object stands as something subjective, general, necessary and useful, — not barely *given*, particular and accidental ; and thus reacts against the unilateral consciousness, which relates to objects as immediately *being*, is swayed by the impulse to general knowledge. The *practical* mind begins not, like the theoretical mind, from apparently independent objects, but from its own *subjective* purposes and interests, and proceeds to make them objective. Although in this manner it reacts against the partial consciousness, yet the two mutually integrate each other ; for the theoretical mind energizes in its own determinations, in *thoughts*, and, conversely, the purposes of the practical mind are not something *particularly subjective*, but independently general, something that universally *is*. Thus the true nature of reason is evolved, — the unity of the Subjective and Objective.

Both the theoretical and practical mind belong yet to the sphere of the Subjective generally ; they are not to be distinguished as active and passive. The subjective mind *produces*, but the products are *formal* ; internally, the production of the theoretical mind is but its ideal world, and the recovery of abstract inner self-determination. Similarly, the practical mind is active in a *limited* material, which it reduces to the form of subjective generality or universality. Externally, the product of the theoretical mind is the *word*, and of the practical mind *enjoyment*.

I. THE THEORETICAL MIND.

INTELLIGENCE is determined from without ; as *knowing*, however, it must state the object of determination as its own. Its activity is concerned in the formality of *finding* reason, and its purpose is *to be reason pro se*. This activity of the mind is *cognition*. The *formal* knowledge of certainty progresses to *determinate* knowledge, to knowledge conformable to the idea. The course of this progress is in itself rational, and a necessary transition from one mental activity or faculty to another. — The development of intelligence percurs the following stages :—

1. Intelligence faces an immediate object in *intuition* ; it then has
2. A reflected, recollected material, in *conception*, and
3. An object which is both subjective and objective, in *thinking intelligence*.

Each of these three is subdivided again into three momenta :—

1. *Intuition* triples itself into
 - a.) The *sensation* of the immediate material ;
 - β.) *Attention*, which both detaches itself from, and fixes itself upon, the object ;
 - γ.) *Intuition* properly so called.
2. *Conception* embraces
 - a.) Recollection ;
 - β.) Imagination ;
 - γ.) Remembrance.
3. *Thought* includes
 - a.) Understanding ;
 - β.) Judgment ;
 - γ.) Reason.

1. *Intuition.*

a.) *Sensation* recurs in the sphere of the *mind* as its first and immediate determination. It is not to be confounded with the sensation of the soul, where it is merely the annulment of the particular material affections, nor with that of consciousness, which is the immediate action of an external object ; it is here the unital determination resulting immediately from the resumption of both. The sensation of the mind is immediate and simple, and on that account in the form of particularity.

β.) This immediate determination differentiates itself into the two momenta, first, of the abstract, identical *direction* of the mind, — *attention to* the object, — and, secondly, of its abstract internal being, so that the object is stated as exteriorly existing in *time* and *space*.

γ.) Intelligence, as the concrete unity of these two momenta with the determination of immediately recollecting itself in the Exterior, and of infusing this recollection again into that Exterior, is *intuition* properly so called. In this sense, Schelling, e. g., spoke of *intellectual intuition*.

2. *Conception.*

Conception, as recollected intuition, is the medium between the immediate *determination* in intelligence and its freedom in thought. Conception is the *property* of intelligence with yet predominant subjectivity, because it is immediate. Intelligence therefore tends to *complete* conception by mediating it, stating itself as self-intuition, exteriorating the internal subjectivity, and remaining within itself in that exterioration. The first stage of this mediation is

a.) *Recollection*, in which the result of intuition is merely preserved and verified, as the internal *image* of

the object placed in the peculiar space and time of the subject. This image is transient ; the intelligence in the capacity of *attention* is itself the time and space, the *when* and *where* of this image. But intelligence is not only conscious, but likewise the internally *ideal* existence of its determinations ; thus the image, though no longer *existing* as such, is unconsciously retained. The image thus abstractly preserved demands an actual intuition for its actual existence ; and this is remembrance as a subsumption of an immediate *single* intuition under the formally General, — *conception*.

β.) The intelligence which is active in reproducing these images, in bringing them forward again to intuition from the inner recesses of the “ I,” is *reproductive imagination*, which now sways the images. The immediate relation of the reproduced images is that of their space and time. But as existing in the subject, the images are dissolved as to their spatial and temporal concretion, which is their unity in intuition ; this unity in remembrance is a *general conception* as the associating relation of the images, of the more abstract or concrete determinations, according to circumstances. This control of images by a general conception gives the so-called association of ideas.

The reproductive imagination is, in the first place, the mere formal activity of reproducing the images. Secondly, it refers the images to each other, makes them general conceptions, and is thus the *associating imagination*. Finally, it identifies the generality of conception with the particularity of the image, and *figures* the former, — *fancy*, &c., which forms the transition to *remembrance*. In *fancy* (phantasy) conception re-determines itself as immediate being in producing *signs* and *symbols*, which are at first merely *external*. But, in truth, the immediate existence of the symbols is annulled by the

immanent intelligence ; the symbol is but the ideal evanescence of its immediate existence, an *existence in time*, the determination of which is *language*. Tones, we have before seen, are the representatives of time, — time given in intuition.

The *name*, as the combination of intuition and of the significance of its forms, — a combination which is produced by the immanent intelligence, — is at first a single, *transient* production ; the recollection of this external production is *remembrance*.

γ.) *Remembrance* is again, first, the mere unity of the sign and its import in intelligence, — *memory of names* ; secondly, the reproduction of the thing from the name, and conversely, without intuition, — *reproductive memory* ; thirdly, the internal, permanent unity of both, — *mechanical memory*, in which things *and* their import are generally retained.

3. *Thought.*

Intelligence *recognizes* ; it recognizes an intuition as its own, recognizes the thing in its name, &c. But now it is its own universality in the double sense of the Universal or General *as such*, and of the same *as immediate being*. Thus intelligence is cognition *for itself in itself* ; the thing, the object, is its own *thought*. Intelligence has then arrived at the last and final unity of the Subjective and Objective, — *thought*.

Thought is, first, merely formal, identical *understanding*, which elaborates the individual remembered conceptions to genera, kinds, laws, forces, &c., so that the Material finds its being only in these forms of thought. Next, it is essentially diremption, — *judgment*, which no longer opposes the generality of the idea to its particular being, but distinguishes the two according to their essential connection. Thirdly, thought annuls the formal de-

terminations and states the identity of the differences, — *formal reason*. — The understanding explains the Individual by the Universal ; judgment declares the Individual to be universal ; reason determines the Universal as particularizing itself and resuming its unity from the particularity.

After thus completely possessing itself of its determination, intelligence lives in its own domains ; it knows itself as furnishing its own material, and as such it is *will*.

II. THE PRACTICAL MIND.

THE mind as will is self-cognizant as concluding in itself with itself, — as replenishing itself from its own resources. This replete *being pro se* constitutes the reality of the mind's idea ; as will, the mind enters upon reality, whilst in the form of cognition it dwelt in the universality of the idea. Deriving its determinations, its "contents," from its own being, the will is *free*. Its finitude, however, consists in the formalism, that its self-repletion is merely abstract determination, barely its *own* determination (*arbitrium*), but not as yet identified with developed reason. Its destiny therefore is, to bring the freedom of the mind to existence in the formal will, to make freedom its determination, to make itself the *objective* mind.

As immediate, the will is (a.) *practical feeling*, with a particular import, — a merely immediate, individual, subjective will, which indeed feels itself as objectively self-determining, but is as yet without the truly universal, truly objective reality. It then (b.) proceeds, as *impulse*, to make the forefelt correspondence of its inner determination with objectivity the purpose of its realization. Finally (c.), the particular impulses are subordinated to a general one, to *happiness*, which is indeed a universality, but only a *reflective*, not an *absolute* one.

a.) *Practical Feeling.*

The immediate determination of the practical mind is formal, so that it finds itself as an individuality, determined in *its* inner nature. Thus its "material" is indeed that of reason, but as an accidental and subjective material, arising from the particularity of wants, opinions, &c. This practical feeling contains the demand of *its* determination with reference to an immediate individuality, which is to become conformable to it. Such is the subjective and superficial feeling of *pleasure* or *pain*, — or, if the subjective determination be due to intuition or conception, of *joy* or *sadness*, *hope* or *fear*, &c., — or, finally, if the determination be that of thought, the feeling of the *Just* or *Unjust*, *Moral* or *Immoral*, &c.

b.) *Impulse and Arbitrary Discretion.*

The practical impulse is *real* judgment. The *immediate* determination is inadequate to the self-determination of will, a negation of it. In order, therefore, that will, the ideal unity of universality and determination, be satisfied, the conformity of its inner determination to existence is to be stated by it. Thus the will is, first, *impulse* and *inclination*, — or, when the totality of the practical mind infuses itself into one of the many limited determinations, *passion*. *Passion as such* is neither good nor bad ; it consists simply in this, that a subject has concentrated the whole live interest of its character, enjoyment, and talent in one object.

The subject is active in gratifying the impulse by transferring the subjectivity of its determination, its objective *purpose*, to objectivity. The distinction of this formal impulse from the activity is *interest*.

The will as thinking and ideally free distinguishes itself from the particularity of impulses, and establishes itself

in dominion over the manifold determinations of impulse ; thus it is *reflecting* will. In thus choosing between several impulses, it is *arbitrary discretion*. In this manner, one impulse and inclination is annulled by another, and so on *ad infinitum* ; the truth then becomes the gratification of *impulse generally* ; the object of the reflecting will is *happiness*.

c.) *Happiness*.

In this idea of a general gratification produced by reflecting thought the *particular* impulses are stated as *negative*, and are to be sacrificed to each other, or to the general purpose. Happiness is only the abstract generality of determination, the first negation of particularity ; but the truth of the particular determinations is their simultaneous annulment and affirmation, the truly universal determination of the will in itself, — the will's self-determination, — *freedom*.

III. THE FREE MIND.

THE really free will is the unity of the theoretical and practical mind, — the will which is free *for itself*, the formalism, accidentality and limitation of the previous practical material having annulled itself. By the annulment of the mediation contained in it it is the self-stated, immediate individuality, which is at the same time purified to universal determination, *freedom itself*. This general determination is now the object and purpose of the will, inasmuch as the will *thinks* its real nature ; it is will as *free intelligence*.

The mind which knows itself as free, and wills itself as its object, is, first, again the reasonable will, or the mere *idea* of the absolute mind. As the abstract idea, it again

exists solely in the *immediate* will, which then is to develop itself, and state the developed determinations in existence, which as the existence of the *idea* is *actuality*, — *objective mind*.

THE OBJECTIVE MIND.

THE objective mind is the absolute idea, but only as potential ; in existing on the grounds of finitude, its real rational freedom retains the appearance of an external determination. — Free will distinguishes itself, first, into these momenta : that freedom is its *internal* determination and purpose, and relates to an *external* objectivity, which latter splits into the *anthropological wants*, the outward objects of consciousness, and the relation of one individual will to another. But the activity of the will realizes *freedom*, its idea, in objective reality. This realization, as the actuality of a determined world, remains in the form of *necessity*, whose substantial coherence in phenomenality is its *power*, its recognition in consciousness. This unity of the rational with the individual will, which prompts the activity of the former, constitutes the simple reality of freedom. Its form is that of thought, and therefore that of universality. Stated for conscious intelligence, it is *law* ; freed from the impurity and accidentality which belong to it in practical feeling and in impulse, and imparted in its universality to the subjective will, it constitutes *morals*.

This reality in general as the *existence* of free will is *right* (*jus*), the existence of *all* the determinations of freedom. In reference to the subjective will, where they are to come to existence in this universality, the rights are *duties*. Whatever is *right* is *duty*, and conversely.

Free will is

- A. — *Immediate* and *individual*, — the *person* ; the existence which the person gives to its subjective freedom is *property*. Right in this sense is the *formal, abstract right*.
- B. — *Reflected into itself*, determined as particular, — the right of subjective will, — *morals*.
- C. — *Substantial will*, — its subjective reality adequate to the idea, the totality of necessity, — *higher morality in the family, civil society, and the state*.

A. — RIGHTS.

I. PROPERTY.

THE *person* is the mind in its immediate individual liberty, which knows its individuality as absolutely free will ; but as abstract it recognizes it only in an *external thing*. This external thing, then, is without right against the subjective will, — becomes attached to and determined by it, as *property*. The appropriation of a thing by the individual has this sense, that the individual embodies its personal will there. Thus the possession becomes *property*, which in the form of mere possession is *means*, but as the existence of personality also *purpose*. In property the individual effects its mediation with itself through the external thing. But the *thing* being abstractly external, the person thus exists externally. The concrete return to subjectivity from this exterioration is, that the person becomes its self-repulsion, and attains to truly personal existence in a mutual recognition of personality. The thing, then, is the mean through which the extremes — the persons, who in the knowledge of their identity are mutually independent — conclude with each other. The will of the person has a definite, recognizable

existence for other persons in the thing possessed by seizure, modification, or designation.

Since property is but the expression of my individual will, it can be transferred by an act of that will, and become the property of another by a simultaneous act of his will, in the *treaty*.

II. TREATY (AGREEMENT).

THE two wills and their agreement in the treaty, being internal, are distinct from their fulfilment. The stipulation merely contains the actual transference of the property from one will to another. The simple expression, the *word*, is here the *deed*, and constitutes the validity of the treaty.

The treaty, as an arbitrary agreement about an accidental thing, implies the statement of the accidental will ; this is inadequate to right and produces wrong, whence then arises the relation of *right* and *wrong*.

III. RIGHT AND WRONG.

RIGHT is the *exterior* existence of liberty ; it thus becomes engaged in numerous relations to the “without,” and to other persons. In consequence we have : —

1. Several titles and principles of right, which together constitute the semblance of right, though right per se is only one. The identification of right per se with the different titles of right depends upon the particular will of particular persons, and constitutes unintentional *wrong*, the ground of juridical pleadings. If, on the contrary,

2. The semblance of right is consciously asserted by an individual will against right per se, the external recognition of right is detached from its intrinsic value, and we have intentional wrong, — *fraud*. Finally, if

3. The particular will opposes itself both to the semblance and the reality of right, we have *crime*. Such an action as a violation of right is in itself null. As a willing and thinking subject the acting person states a law, but a law which is merely formal, — obtains in its general validity only for this particular person, — a law to which the person has subordinated itself by its own act. The manifested nullity of this action, and the simultaneous execution of both this formal law and right per se, first by an immediate subjective will, is *revenge*, which, as proceeding from a particular personality, is again wrong, and so on *ad infinitum*. But this progress is annulled in the third disinterested judgment, — in *punishment*.

The assertion of right per se is mediated (*a.*) by the adequacy of a particular will — the judge — to this right, and by the opposition of this to the crime, and (*b.*) by the executed negation of the negation of right by the criminal. Since the negation of right exists in the will of the criminal, the punishment affects, 1st, the *person* and *property* of the criminal, while it, 2d, *coerces* him. — The mediation of right, then, is altogether *subjective*. But the subjective will, as determining right, is null, and its validity obtains only in so far as it is per se the existence of the rational will, — *morality*.

B. — MORALITY.

THE free individual, which in immediate right was only the *person*, is now determined as *subject*, as will reflected into itself ; so that the determination of will, as the individual's *own*, is distinct from the existing freedom in an exterior thing. This determination is, first, per se, — the reason of the will, — and, secondly, as an active manifes-

tation in *action* ; and the totality of this is *moral freedom*.

I. RESOLVE.

IN so far as the action concerns an immediate existence, it is liable to be frustrated, and the will is forced to make the distinction between the *resolve* and the execution, of which it recognizes the former only as its own.

II. INTENTION AND WELL-BEING.

THE action in its concrete reality is engaged in a variety of relations and connections, which must have been foreseen and willed by the subject, in its *intention*. On the other hand, the subject has the right to shape its action in accordance with its own wants and purposes, — in general, to its own well-being, which differs from *happiness* (previously spoken of) in this, that it is conceived with a regard to morality. But both the intention and the well-being of the subject are abstract ; the former can be applied to any particular isolated bearing of the action, so that the essential intention of the action is in the most downright contradiction with its actual import ; the latter, as belonging to a particular subject, is likewise inadequate to universality. We come, then, to

III. GOOD AND EVIL.

GOOD is the determination of the universal will, the law and substance of all particular determination, the absolute purpose of the world, — the subject's duty, which, when recognized, must become its intention, and the object of its activity.

Although the Good as the Universal includes the particular determinations, yet, as immediately abstract, it is to be determined by free will, which is involved in numerous contradictions by an attempt at this. First, duty, the Good, is of various kinds, which not unfrequently come into collision; again, the subject, in willing the Good, is to aspire after the realization of its own interest and welfare, which, on the other hand, is null in the general purpose of the Good; both these momenta are to be united, since the subject as individual and universal forms an identity, &c. The relation of these contradictory determinations is simply the abstract self-certainty of the individual, which appears in the two forms of *conscience* and *evil*. The former is the will of the *Good*, which, however, is here purely subjective, and dependent upon the decision of the "I"; and the latter is the same deciding "I," as isolating itself in its subjective interest. *Evil* is thus the intimate reflection of subjectivity in itself against the Objective and Universal, and the will of the abstractly Good the same subjectivity; the two therefore collapse, and the result is their identity, in which the individual will and the abstract Good coincide, — *social morality*.

C. — SOCIAL MORALITY. (POLITICS.)

SOCIAL morality is the truth of the subjective and objective mind, — the universal rational will, in which self-conscious freedom has become the *nature* of the individual. — The substance which knows itself as free has its reality in the spirit of a nation. The abstract diremption of this spirit is its particularization in *persons*, of whose independence it is the internal power and necessity. But the person knows itself as essentially this substance, and looks upon the latter as its absolute end and object, as prompt-

ing its activity, thus attaining to its freedom. The dependencies of the individual, in the relations into which the substance particularizes itself, constitute the *moral duties* of the individual. The moral substance is

1. The immediate or natural mind, — *the family* ;
2. The relative totality of the relations of individuals as independent persons to a formal universality, — *civil society* ;
3. The self-conscious substance as the mind developed to an organic reality, — *the state*.

I. THE FAMILY.

As immediate, the individual has its substantial existence in a natural universality, founded upon the sexual relation, in the family, — the unity of love and mutual confidence.

II. CIVIL SOCIETY.

THE substance which as mind particularizes itself into many *persons* (families or individuals) becomes a system of atomism, in which it (the substance) remains merely the general mediating connection between independent extremes and isolated, personal interests ; and as such it is *civil society*. It is founded upon mutual wants, the necessary division of labor, the consequent distinctions of rank, &c. The morality appears here as confidential honesty and honor. — Hegel distinguishes three ranks in society, which he considers as permanently necessary ; I shall be sufficiently understood, if I forego his phraseology, and designate them as *proletarians*, *ordinary citizens*, holding property, and the *higher classes* of society, including the intellectual laborers.

III. THE STATE.

THE state is the self-conscious substance of morality, the union of the principles of the family and of civil society.

The state is (a.) its internal organization, — the *constitution*, the *internal law* ; (b.) a particular individual in its relation to other states, — *external* (international) *law* ; (c.) these two as momenta in the development of the universal idea of the mind, — *history*.

a.) *Constitutional Law*.

The nature and essence of the state is the universality of the rational will, by which, on the one hand, the persons are maintained and promoted in their individuality, and, on the other, reduced to the life of the universal substance, and thus to annul the individuality. The laws are, first, limits, *bounds* for the individuals ; secondly, they are *purposes* for the labor of the different classes ; and, thirdly, the *substance* of the free will and morality of all. The constitution is the organization of the state power, — existing *justice* as the reality of *freedom* in the development of all its rational determinations.

The guaranties of a constitution are contained in the spirit and consciousness of the nation, and the conformity of the state organization to this. — The living totality of the state and its constitution is the government. In the government, as the organic totality, *subjectivity*, the *power of the prince* is the pervading unity.* “ In the perfect form of the state, in which all the momenta of the idea have their free existence, this subjectivity is not a so-called moral person, or a resolution of the majority, — forms, in

* As if the true subjectivity of a state, or of any thing organic, could be something extraneous, — which the power of the prince always is, — something else than a *reflex objectivity* ! But Hegel wrote in Prussia.

which the unity of the resolving will has no real existence, — but a real individuality, the will of one resolving individual, — *monarchy*.” (!!!) The monarchical constitution is therefore the constitution of developed reason ; all other constitutions belong to inferior stages of development.

It is without interest to expose the remainder of Hegel's disquisitions on this particular subject ; they all hinge on the scheme of a very equivocal constitutional monarchy.

b.) *International Law.*

A state of war endangers the independence of states, while, on the other hand, it leads to the mutual recognition of the different nations, which is established in *treaties of peace*.

c.) *History.*

The spirit of a nation is determined by geographic and climatic particularities ; it exists in *time*, and necessarily pursues the development of a particular *principle*, and therewith the development of a particular consciousness and reality, — it has an internal *history*. As a limited spirit it is subordinate to *universal history*, whose events exhibit the dialectics of nations, — the *world's judgment*. This movement is that in which the spiritual substance liberates itself, in which the absolute purpose of the world is realized, and becomes the *spirit of the world*. This liberation and its labor is the supreme and absolute right. The self-consciousness of a particular nation is the bearer of a stage in the development of the universal spirit, and the objective reality, in which this *states* its will. Against this will that of the other nations is without right ; but even this will is annulled and transcended. The individuals active in this appear as *instruments*, whose boon is *renown*.

THE ABSOLUTE MIND.

THE *absolute mind* is the true reality of the mind, — the one universal spiritual substance, which judges and knows itself in itself. Its phases are *art*, *religion*, and *philosophy*.

I. ART.

THIS form of the self-knowledge of the absolute mind is, as immediate, first, a dissection into a work of common exterior existence, and, next, the concrete intuition and conception of the ideally absolute mind as the beau ideal, — as the concrete form born from the subjective mind, in which the natural, material existence is but a *sign* of the idea, — the form of *the beautiful*. But the immediate natural existence of this form is also a determination of the *substance*, so that it must be the most perfect natural existence. Such is the *human form*, the representation of which is *classic beauty*. The absolute mind, however, cannot be exhibited in similar individualities; the mind represented will therefore be the particular spirit of a nation, which leads to a polytheism in art. Moreover, the work of art is the product of a subjective activity, of *genius*. The former of these inadequacies leads us, first, to *symbolic art*, the art of *sublimity*, in which the relation of the idea to its material form is merely a negative one; and next, to *romantic art*, in which the absolute mind is represented, not as identical with, but as only *condescending to*, the external form. The latter inadequacy brings us to

II. REVEALED RELIGION.

THE absolute mind exists only in so far as it manifests, reveals, itself as such to mind. Its form is here that of *conception*. In this revelation we have the Universal — the Creator — engendering the mediating Particular, — *the eternal son*, — and remaining immanent therein as the *spirit*. — The ultimate form of the absolute mind is

III. PHILOSOPHY.

IN religion, the mind presented itself in its reflectional momenta to the understanding, so that its unital presence was a subject of faith ; in philosophy, it becomes the object of absolute intelligence. Philosophy is the idea thinking itself, truth knowing itself.

THE END.

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ORDER IV. <i>Metals.</i>	<i>Silicious Metals.</i>

II. REVEALED RELIGION.

THE absolute mind exists only in so far as it manifests, reveals, itself as such to mind. Its form is here that of *conception*. In this revelation we have the Universal — the Creator — engendering the mediating Particular, — *the eternal son*, — and remaining immanent therein as the *spirit*. — The ultimate form of the absolute mind is

III. PHILOSOPHY.

IN religion, the mind presented itself in its reflectional momenta to the understanding, so that its unital presence was a subject of faith ; in philosophy, it becomes the object of absolute intelligence. Philosophy is the idea thinking itself, truth knowing itself.

THE END.

FOURTH CLASS

OIES, — corresponding to the igneous element.

I.	Ochre.	Haloid Ores. — Halides.	Silicious Halides.	Silicious Blendes.	Silicious Metals.
ORDER II.				ORDER III.	ORDER IV.
		Inflammable Ores. — Blendes.			Metals.

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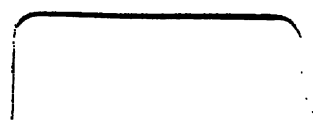
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